

Discussion Paper:  
Review of the declaration of local  
knowledge waters in Victoria



## Invitation to make comment

This discussion paper is intended to stimulate discussion of the reform options presented and provide the opportunity to submit alternative options for consideration.

You are invited to make comments in relation to the options posed in the paper, including any suggestions on other ways to improve the effectiveness and efficiency of the local knowledge framework in Victoria.

Submissions can be made by email to: [information@transportsafety.vic.gov.au](mailto:information@transportsafety.vic.gov.au) or by mail to:

Transport Safety Victoria  
PO Box 2797  
Melbourne  
VIC 3001

The submission period ends on 30 June 2016.

MSV will use submissions to inform its final decision on the declaration of local knowledge required waters for publishing in the Victorian Government Gazette.

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## Executive summary

The *Marine Safety Act 2010* (Vic) part 3.4 outlines the local knowledge certification scheme and details its application to masters of domestic commercial vessels. It does not apply to masters of recreational vessels.

In 2014, Maritime Safety Victoria (MSV), a branch of Transport Safety Victoria (TSV), committed to a comprehensive and statewide review of the local knowledge framework applicable to Victorian waters. This commitment was further strengthened as a result of recommendations made by the Coroner following a recent coronial inquest.

The purpose of local knowledge requirements is to ensure that additional and/or specific risks to navigation which arise as a consequence of local conditions are adequately controlled. The requirement for local knowledge provides the mechanism for ensuring that vessel masters are adequately informed about those specific risks. Where it is determined that the required certificate of competency (CoC) is not sufficient on its own to adequately mitigate those risks, additional controls (that is, knowledge) are required.

The decision to review local knowledge was made recognizing that many aspects of the framework were outdated and some parts of the system had never been effectively exercised. There is increasing evidence that navigational safety risks within some of the currently declared waters have changed over time and that there exists a general lack of understanding of the rationale for the continuation of this scheme in some of these waters. In addition, the framework has not evolved over time to take into account improvements in navigational safety practices, technology, vessel design and capability.

The review of these waters involved an assessment of the risks based on discussions with local port managers and a series of risk workshops involving key stakeholder groups.

Following the risk assessment workshops, several reform options were recommended. These options are:

### **Waters where it is recommended local knowledge waters and certification declarations are revoked:**

- LK.1 – Apollo Bay
- LK.2 – Barwon Heads
- LK.4 – Corner Inlet (amalgamate with LK.3 and LK.5)
- LK.6 – Geelong
- LK.7 – Gippsland Lakes
- LK.9 – Maribyrnong River – No 1 Maribyrnong berth to Canning Street
- LK.10 – Port of Geelong
- LK.11 – Port of Melbourne (amalgamate with LK.18)
- LK.12 – Port of Port Fairy
- LK.13 – Port of Portland
- LK.14 – Port of Queenscliff and adjacent waters of Port Phillip Bay
- LK.16 – Port of Port Phillip Bay (South) (amalgamated with LK.15)
- LK.17 – Warrnambool
- LK.20 – Westernport and Hastings (Western Channel and East Arm)
- LK.21 – Westernport (North Channel)
- LK.22 – Westernport (Eastern Waters)

The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.

### **Waters where it is recommended local knowledge waters declarations are retained/modified and certification requirements amended:**

- LK.3 – Corner Inlet – restricted to approaches to Corner Inlet and Barry Beach large vessels
  - Retain local knowledge declaration within its existing boundary.
  - Strengthen existing examination process to include risks that exist within the waters and approaches to Port Franklin.
  - Consider a tiered approach in the examination process to account for operations within Port Welshpool, Port Franklin and Barry Beach.
- LK.5 – Port Albert
  - Retain local knowledge declaration within its existing boundary.
  - Strengthen existing examination process to include contemporary and relevant risks that exist.
  - Recommendation that the requirement for local knowledge extend to all passenger carrying DCVs transiting the entrance regardless of size.
- LK.8 – Lakes Entrance Bar including the requirements for passenger vessels
  - Retain local knowledge declaration.
  - Re-define the boundaries of the declared waters to include a 1 nm radius seaward of the Bar and to include the waters immediately inside the Bar within the following boundaries:
    - footbridge over Cunninghame Arm

- Bullock Island road bridge
  - entrance to North Arm from Jemmy's Point to Bullock Island
  - The Narrows extending west to Lon 147° 57'
  - a line at the entrance to Hopetoun Channel
  - Re-name declaration as "Lakes Entrance"
  - Retain training and examination requirements for passenger carrying vessels.
- LK.15 – Passenger operations through Port Phillip Heads
    - Retain local knowledge declaration.
    - There are two recommendations for re-defining the boundaries of the declared waters.

#### **Option 1**

- A 3 nm radius seaward of the Heads from Point Lonsdale and to include the waters immediately inside the Heads within the following boundaries:
  - All the waters between an imaginary line drawn between Point Nepean and Shortland Bluff.

This will align with the recently gazetted new boundary that declares Port Phillip Heads as designated hazardous waters.

#### **Option 2**

- A 3 nm radius seaward of the Heads from Point Lonsdale and to include the waters immediately inside the heads within the following boundaries:
  - a straight line from Point Lonsdale to Shortland Bluff
  - a straight line from Shortland Bluff to the Popes Eye south cardinal mark located in the south channel
  - a straight line from the Popes Eye south cardinal mark, through the Entrance Beacon north cardinal mark to Observatory Point.
    - Retain training and examination requirements for passenger carrying vessels.
    - Re-name declaration as "Port Phillip Heads".

This option aligns the proposed boundary with a recent coronial recommendation.

- LK.18 – Port of Port Phillip Bay (North)
  - Retain local knowledge declaration.
  - Re-define boundary to include the following:
    - Port of Melbourne waters north of Lat 38°00'S.
    - Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge
    - Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge.
  - Re-name "Port of Melbourne"
- LK.19 – Yarra River
  - Retain local knowledge declaration.
  - Re-define boundary to include the following:
    - waters of the Yarra River upstream of the western drip line of Bolte Bridge to Dights Falls.
  - Re-name "Yarra River – Parks Victoria waters"

The risk assessment process undertaken for these waters indicated that local knowledge was, to some extent, warranted as an additional mitigation measure to the existing identified risks.

A stakeholder consultation process has been established to enable public comment on the proposed options and recommendations.

MSV will use submissions to inform its final decision on the declaration of local knowledge required waters for publishing in the Victorian Government Gazette.

### Summary of current and proposed local knowledge schemes

Local knowledge area	Location	Current scheme	Proposed scheme	Justification
LK1	Apollo Bay	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK2	Barwon Heads	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK3	Corner Inlet (approaches)	Local knowledge by examination and assessment	Retain local knowledge, amalgamate with LK.4 and LK.5	Strengthen examination process to include risks at the approaches to Port Franklin. Consider tiered approach to examination process for Port Welshpool, Port Franklin and Barry Beach Marine Terminal.
LK4	Cornet Inlet	Local knowledge by examination and assessment	Retain local knowledge, amalgamate with LK.3 and LK.5	Strengthen examination process to include risks at the approaches to Port Franklin. Consider tiered approach to examination process for Port Welshpool, Port Franklin and Barry Beach Marine Terminal.
LK5	Port Albert	Local knowledge by examination and assessment	Retain local knowledge, amalgamate with LK.3 and LK.4	Strengthen existing examination process to include passenger carrying DCVs over the entrance bar.
LK6	Geelong	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK7	Gippsland Lakes	Local knowledge by limited examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK8	Lakes Entrance Bar	Local knowledge by examination, training and assessment	Retain local knowledge	Re-define boundaries to include an area 1km seaward and the waters immediately inside the Bar.
LK9	Maribyrnong River	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks. Waters of the Maribyrnong River upstream to Shepherd Bridge to be included in LK11.

Local knowledge area	Location	Current scheme	Proposed scheme	Justification
LK10	Port of Geelong	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK11	Port of Melbourne	Local knowledge by examination and assessment	Retain local knowledge, amalgamate with LK.18 to create new LK18 Port of Melbourne <ul style="list-style-type: none"> <li>• Port of Melbourne waters north of Lat 38°00'S.</li> <li>• Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge</li> <li>• Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge</li> </ul>	Re-define boundary to include the following: <ul style="list-style-type: none"> <li>• Port of Melbourne waters north of Lat 38°00'S.</li> <li>• Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge</li> <li>• Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge</li> </ul>
LK12	Port Fairy	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK13	Port of Portland	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK14	Queenscliff	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK15	Passenger operations through Port Phillip Heads	Local knowledge by examination, training and assessment	Retain local knowledge, amalgamate with LK.16 to create new LK15 Port Phillip Heads	Two options to re-define waters to include 3 nm seaward and immediately inside entrance to PPB
LK16	Port Phillip Bay (PPB) South	Local knowledge by examination and assessment	Amalgamated with LK.15 to create new LK15 Port Phillip Heads	Two options to re-define waters to include 3 nm seaward and immediately inside entrance to PPB
LK17	Warrnambool	Local knowledge by limited assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.

Local knowledge area	Location	Current scheme	Proposed scheme	Justification
LK18	Port Phillip Bay North	Local knowledge by examination and assessment	Amalgamate with LK11 to create new LK18 Port of Melbourne	Re-define boundary to include the following: <ul style="list-style-type: none"> <li>Port of Melbourne waters north of Lat 38°00'S.</li> <li>Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge</li> <li>Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge.</li> </ul>
LK19	Yarra River – Upstream Bolte Bridge	Local knowledge by examination and assessment	Retain local knowledge. Re-name “Yarra River – Parks Victoria waters”	Re-define boundary to include the following: <ul style="list-style-type: none"> <li>Waters of the Yarra River upstream of the western drip line of Bolte Bridge to Dights Falls</li> </ul>
LK20	Westernport and Hastings	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK21	Westernport North Channel	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.
LK22	Westernport Eastern Waters	Local knowledge by examination and assessment	No local knowledge requirements	The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.



# Introduction

## Application

The MSA establishes the requirements for local knowledge certification on Victorian waters. The requirement applies only to the masters of commercial vessels. **It does not apply to the masters of recreational vessels.**

## Structure

This discussion paper has been structured to provide:

- a statement of the purpose of the review
- an overview of the current local knowledge framework in Victoria, including the synergies that exist with pilotage services and harbor master responsibilities
- a description of Victoria's waterways as they apply to the requirement for local knowledge
- a general overview of the relevant legislative and policy framework as it applies to the requirement for local knowledge
- an overview of the current local knowledge declared waters and the identification of those masters to whom local knowledge applies
- an analysis of current local knowledge certificate holders
- information about the current financial cost burden on local knowledge certificate holders
- information about the methodology used during the review process
- a summary of the results of the risk workshops
- details of the various reform options under consideration.

## Invitation to make comment

This discussion paper is intended to stimulate discussion of the reform options presented and provide the opportunity to submit alternative options for consideration.

You are invited to make comments in relation to the options posed in the paper, including any suggestions on other ways to improve the effectiveness and efficiency of the local knowledge framework in Victoria.

Submissions can be made by email to: [information@transportsafety.vic.gov.au](mailto:information@transportsafety.vic.gov.au) or by mail to:

Transport Safety Victoria  
PO Box 2797  
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VIC 3001

The submission period ends on 30 June 2016.

MSV will use submissions to inform its final decision on the declaration of local knowledge required waters for publishing in the Victorian Government Gazette.

## The purpose of the review

In 2014, MSV committed to undertake a comprehensive and statewide review of the local knowledge framework applicable to Victorian waters. This commitment was further strengthened as a result of recommendations made by the Coroner following a recent coronial inquest.

The decision to review local knowledge was made recognizing that many aspects of the framework were outdated and that some parts of the system had never been effectively exercised. There is increasing evidence that navigational safety risks within some of the currently declared waters have changed over time and that there exists a general lack of understanding of the rationale for the continuation of this scheme in some of these waters. In addition, the framework has not evolved over time to take into account improvements in navigational safety practices, technology and vessel design and capability.



# Local knowledge framework within Victoria

The MSA gives the Safety Director power to declare a part of State waters to be pilot required waters or local knowledge required waters.

250 Declaration

The Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in which a licensed pilot is required to be engaged.

81 Declaration in relation to waters requiring local knowledge certificates for navigation in those waters.

The Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in respect of which a local knowledge certificate is required to navigate types or classes of vessel specified in the notice.

The review supports the effective exercise of these powers by establishing a high level risk-based decision-making framework to assist and structure such decisions.

Presently, all Victorian local knowledge required waters are either coastal or enclosed waterways.

The review aligns with TSV's regulatory approach by being independent, impartial, risk-focused, proportionate, accountable and transparent. This approach is applied to decisions relating to declarations of pilot required and local knowledge waters and determinations of waters that require a licensed harbour master (relevant decisions).

The review also aligns with the *Transport Integration Act 2010* (Vic) (TIA) transport system objectives of economic prosperity, environmental sustainability, safety, health and wellbeing.

## Commercial maritime safety regulation

The objects of MSA are to promote:

- the safety of marine operations
- the effective management of safety risks in marine operations and in the marine operating environment
- continuous improvement in marine safety management
- public confidence in the safety of marine operations
- involvement of relevant stakeholders in marine safety
- a culture of safety among all participants in the marine operating environment.

To achieve these objects, a framework of regulatory interventions has been developed that addresses risks generally encountered in the maritime environment. TSV has adopted the following systemic approach to implementing these interventions:

- safe waterways – through the provision of aids to navigation, infrastructure and dredging. Advice to vessel operators such as vessel movement control, berthing instructions and the provision of navigational safety information
- safe vessels – through the assessment and certification of both domestic and international trading vessel design, construction and equipment
- safe waterway users – through the assessment and certification of vessel operators' knowledge, competence and capability
- safe operating practices – through the use of common rules, such as the International Regulations for Preventing Collisions at Sea, international and national standards, and organisational safety management systems.

These basic intervention approaches support the regulatory frameworks governing commercial maritime operations at the international, national and state levels. They are targeted at mitigating generic risks which can be expected to arise routinely in the course of operations in any maritime environment.

Additionally, the maritime environment features locally specific risks to navigational safety that these generic interventions may not adequately address. Risks such as:

- increased risk of a touch bottom incident, grounding or stranding due to lack of awareness of local oceanographic features such as reefs, shifting sandbanks, narrow twisting channels and underwater obstructions
- potential for touch bottom incident, grounding or stranding due to unanticipated difficulties in manoeuvring and vessel control resulting from a poor understanding of potentially fast changing local weather conditions including tidal and other localised issues such as cross winds or waves
- increased risk of collision or grounding due to unanticipated difficulties in manoeuvring and vessel control when berthing or swinging because of a poor knowledge of port or harbour infrastructure features
- increased risk of collision due to lack of knowledge of port operational procedures, communication mechanisms and traffic management arrangements when operating in close quarters with other vessels in high traffic density areas and dealing with competing priorities for water space
- increased risk of capsize or swamping due to unanticipated difficulties in manoeuvring and vessel control resulting from a poor understanding of potentially fast changing local weather conditions including tidal and other localised issues such as cross winds or waves
- potential for creating confusion with other craft operating in congested water areas due to lack of

contemporary knowledge of the availability, capability and adequacy of port infrastructure and facilities such as mooring areas, berths and cargo handling equipment.

There may also be factors which increase the severity of the consequences of an incident, for example, economic importance, proximity to environmentally sensitive areas, or the carriage of dangerous or sensitive cargos.

To control risks of this type, maritime safety regulation has traditionally included three basic approaches to regulatory intervention intended to target locally specific risks. These include:

**Pilotage** – generally applied where large foreign going vessels (that is, those operated by holders of international ship master certificates of competency), are required to navigate into and out of congested commercial port waters.

- Compulsory pilotage – mandates that a vessel engage a marine pilot with expert local knowledge when navigating in a declared area of water. The pilot assumes conduct of the vessel's navigation but not its command, which remains with the master. Compulsory pilotage may apply to all vessels navigating in the area or, more commonly, to vessels of particular types or sizes. Currently in Victoria, compulsory pilotage applies (unless otherwise exempted under certain conditions) to all vessels >35 m in length when operating in such declared water areas. Currently the following four commercial trading ports are the only declared compulsory pilotage waters in Victoria:
  - Port of Melbourne – managed by the Port of Melbourne Corporation (POMC).
  - Port of Hastings – managed by Patrick Ports
  - Port of Geelong – managed by the Victorian Regional Channels Authority (VRCA)
  - Port of Portland – managed by Port of Portland Pty Ltd (PoP).
- Pilot training and licensing requirements – The *Training and Licensing of Marine Pilots for Victorian Ports – Standard 6.2 Issue 2* establishes the pilot licensing requirements for marine pilots undertaking compulsory pilotage in declared waters. The requirements include:
  - establishing a minimum level of competency and seagoing experience
  - additional training include bridge resource management electronic chart display and information systems (ECDIS) and advanced marine pilot training
  - observer trips (for on the job training), check trips (to verify competency) and an oral examination
  - any specific specialised training that may be required for the level of competency standard
  - any other training that may be required for the maintenance of such level of competency.
- Pilot exemption – a master of a vessel may apply to the Safety Director for an exemption from the requirement to use the services of a pilot in pilot required waters. A Pilot Exemption Certificate (PEC) may be issued to an applicant who is the master of a vessel that regularly visits any Victorian port with waters subject to pilotage requirements. Pilot exempt masters certificates are issued to a specific person for a specific ship in specific waters/berths. The requirements to qualify include:
  - establishing a minimum level of competency and seagoing experience
  - additional training include bridge resource management and ECDIS
  - observer trips (for on the job training), check trips (to verify competency) and an oral examination (reduced from a general pilot requirement as these relate to one specific vessel only).

**Local knowledge** – generally applied when domestic (near coastal) (NC) commercial vessels operate in waterways where special local navigational or weather related hazards exist. NC commercial vessel are those operated by a master holding a domestic CoC up to and including master <80 m NC.

The purpose of local knowledge requirements are to ensure that additional and/or specific risks to navigation which arise as a consequence of local conditions are adequately controlled. The requirement for local knowledge provides the mechanism for ensuring that vessel masters are adequately informed about those specific risks, and where it is determined that the required CoC is not sufficient on its own to adequately mitigate those risks, additional controls (that is, knowledge) are required.

In determining the extent to which local knowledge applies to various classes of vessels and masters, consideration needs to be given to the licensing and certification standards that are being applied at the time.

- Compulsory local knowledge – mandates that the master of a commercial vessel operating in a declared area of water must hold a local knowledge certificate attesting to his knowledge regarding the local hazards that may be encountered in that area of water. This is in addition to the CoC required by a master to operate the vessel. Currently in Victoria, the requirement for a master to have a current local knowledge certificate applies to trading vessels >12 m in length and fishing vessels >35 m in length when operating in such declared water areas. Within certain restrictions, holding a current local knowledge certificate may exempt a vessel master from the requirement to engage a pilot when operating in compulsory pilotage waters where these two types of declared waters overlap.

- Local knowledge certification – the *Local Knowledge Certificate for Masters of Commercial Vessels Guide 2012* establishes the requirements for vessel masters operating in declared waters. The requirements include:
  - evidence that the applicant has suitable qualifications and experience appropriate to the State waters to which the local knowledge certificate will apply
  - completion of an examination on the local knowledge area applied for. The examination may include, but is not limited to, questions relating to navigation aids, geographical features, tidal conditions, statutory requirements, traffic and any other local characteristics, operational condition or anomaly which may relate to safety of navigation.

**Harbour masters** - generally applied where external third party management of vessel movements and provision of real time navigational information is beneficial. An example of this would be when large foreign going vessels and/or domestic commercial vessels transit through high traffic density water areas with significant navigational hazards and compete for room in limited water space.

- Requirement to appoint a harbour master - Section 220 of the MSA requires the following commercial port managers to engage a harbour master:
  - the Port of Melbourne Corporation for the Port of Melbourne waters
  - the Victorian Regional Channel Authority for the Port of Hastings waters
  - the Victorian Regional Channel Authority for the Port of Geelong waters
  - the Victorian Regional Channel Authority for the Port of Portland waters
  - the Safety Director has further determined that the local port manager of Gippsland Ports must also engage a harbour master.
- Harbour master licensing - Marine Determination 7.2, licensing of harbour masters issue 1, 2005 sets out the licensing requirements for harbour masters. The requirements include:
  - provision of evidence of competency, ability and experience to make decisions in respect of the port waters for which the license is issued
  - attestation by the port manager as to fitness and character
  - to be a fit and proper person
  - to be trained by the port manager to ensure that the functions may be performed adequately and the powers exercised properly
  - to be trained by the port manager to ensure that the person is kept abreast of new technology, environmental issues, legislative changes and requirements, and other matters relating to the role.



# Victoria's waterways

Victoria's coastal and enclosed waterways can be broadly categorised as follows:

- **Commercial trading ports** – commercial trading ports are declared under the Port Management Act 1995 (Vic) (PMA). There are currently four commercial trading ports in Victoria:
  - Port of Melbourne – waters currently managed by the Port of Melbourne Corporation (POMC)
  - Port of Hastings – waters managed by Patrick Ports
  - Port of Geelong – waters managed by the Victorian Regional Channels Authority (VRCA)
  - Port of Portland – managed by Port of Portland Pty Ltd (PoP).
- **Local ports** – local ports are also declared under the PMA. There are currently 14 local ports in Victoria, managed by eight local port managers:
  - Gippsland Ports Committee of Management
    - Port of Gippsland Lakes
    - Port of Corner Inlet and Port Albert
    - Port of Snowy River
    - Port of Mallacoota
    - Port of Anderson Inlet
  - Parks Victoria
    - Port of Port Phillip
    - Port of Western Port
    - Port of Port Campbell
  - Moyne Shire Council
    - Port of Port Fairy
  - Colac Otway Shire Council
    - Port of Apollo Bay
  - Warrnambool City Council
    - Port of Warrnambool
  - Great Ocean Road Coast Committee of Management
    - Port of Lorne
  - Barwon Coast Committee of Management
    - Port of Barwon Heads
  - Glenelg Shire Council
    - Port of Portland Bay

At present, the four commercial trading ports are the only declared compulsory pilotage waters in Victoria.

These four ports, along with the port waters of the local ports of Gippsland Lakes, Corner Inlet and Port Albert, are also the only parts of State waters which have been determined to be waters for which a harbour master is required to be engaged.



# Legislative framework

## AMSA National Law

The Australian Maritime Safety Authority (AMSA) is the national regulator for domestic commercial vessel (DCV) safety in Australian waters under the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* (the National Law).

Under the National Law, AMSA is responsible for the administration of CoCs for masters of DCVs. Transitional arrangements are currently in place with state jurisdictions, with AMSA taking over full responsibility for CoCs on 1 July 2017.

Implementation of the National Law does not affect MSV's responsibility for the administration and regulation of local knowledge, pilot and pilot exemption licensing and certification. These requirements remain within the MSA and continue to be the responsibility of MSV to administer and regulate.

The MSA gives the Safety Director a range of powers relating to pilotage, local knowledge and harbour masters:

- section 250 - the Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in which a licensed pilot is required to be engaged
- section 81 - the Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in respect of which a local knowledge certificate is required to navigate a vessel
- sections 258(1)(q) and 259(1) - the Safety Director has the power to determine the parts of State waters (other than the port waters of the Port of Melbourne, the Port of Geelong, the Port of Portland) with respect to which a licensed harbour master is required to be engaged
- section 254 - the Safety Director may grant a pilot exemption to an applicant from the requirement to use the services of a pilot in pilot required waters.

When making a declaration under sections 81 or 250, or a determination under sections 258(1)(q) and 259(1), the Safety Director must have regard to any guidelines made by the Minister for Ports under section 31A of the TIA. At the time of publication of this discussion paper, guidelines under section 31A had not been made.

Additionally, in exercising these powers, the Safety Director is required to have regard to the transport system objectives and decision making principles set out in Part 2 of the TIA. These objectives and principles are:

- transport system objectives
- social and economic inclusion
- economic prosperity
- environmental sustainability
- integration of transport and land use
- efficiency, coordination and reliability
- safety and health and wellbeing
- decision making principles
- principle of integrated decision making
- principle of triple bottom line assessment
- principle of equity
- principle of the transport system user perspective
- precautionary principle
- principle of stakeholder engagement and community participation
- principle of transparency.

While the Safety Director will have regard to all of the applicable objectives and principles when making relevant decisions, a high weighting is placed on safety, as achieving the highest safety standards reasonably practicable is the primary object of the Safety Director.

Section 248 of the MSA also provides for the following requirements in respect to pilotage and pilot exempt masters for vessels over 35 metres long operating in pilot required waters.

However, subject to section 248 (2)(c), the master of a vessel is not required to use the services of a pilot if the master holds a local knowledge certificate for those pilot required waters. Where any changes to local knowledge certification affects the application of section 248 (2)(c), consideration will be given to transitioning local knowledge certificates to pilot exemption certificates where appropriate.

248 Offence not to use a pilot

(1) The master of a vessel must not—

- (a) enter or leave pilot required waters or attempt to enter or leave pilot required waters; or
- (b) navigate the vessel within pilot required waters or attempt to do so—without using the services of a licensed pilot.

Penalty 120 penalty units.

(2) Subsection (1) does not apply to—

- (a) State waters for which no pilot is licensed; or
- (b) a pilot exempt master; or
- (c) a master who holds a local knowledge certificate for port waters in relation to those port waters; or
- (d) a vessel that is less than 35 metres long.

249 Offence to act as a pilot without a pilot licence or pilot exemption

A person must not act as a pilot unless that person—

- (a) holds a pilot licence granted by the Safety Director under this Part that is in effect; or
- (b) is a master who holds a pilot exemption granted under this Part that is in effect.

## Current local knowledge declared waters

Local knowledge waters within Victoria are declared by a notice published in the Victorian Government Gazette. Current declared waters are contained within Schedule A of the Special Gazette Notice number S235 published on 2 July 2012 as follows:

### Schedule A

#### Declared waters

The following waters are State waters in respect of which a local knowledge certificate is required to navigate the types or classes of vessel specified in Schedule B:

Code	Declared water	Limits
LK.1	Apollo Bay	Area of waters covered. From land an east/west line on Lat 38° 45' S leading east up to Lon 143° 41'E, then a north/south line leading south to meet an east/west line from Point Bunbury. (Ref Chart Aus 141).
LK.2	Barwon Heads	Area of waters covered. From land a north/south line on 144°28'E, leading south to meet an east/west line on Lat 38° 18'S, leading east to meet a north/south line on Lon 144° 32'E, leading north to meet land at Ocean Grove. (Ref Chart Aus 143).
LK.3	Corner Inlet – Restricted to Approaches to Corner Inlet and Barry Beach Large Vessels	All the waters contained generally westward of a line commencing at the summit of Mount Latrobe on Wilsons Promontory and running in a direction 050°01' (True) through the trigonometric station on Rabbit Island to 38°48'39.6" S 146°40'04.7" E (WGS84), thence in a direction 320° 0' (True) to 38°45'29.3" S 146°36'35.9" E (WGS84) on the shore in the vicinity of Snake Island.
LK.4	Corner Inlet	All the waters contained generally westward of a line commencing at the summit of Mount Latrobe on Wilsons Promontory and running in a direction 050°01' (True).
LK.5	Port Albert	From 38°45'29.3" S 146°36'35.9" E (WGS84) on the shore in the vicinity of Snake Island, thence in a direction 140d0'(True) to 38°48'39.6" S 146°40'04.7" E (WGS84), thence in a direction 050d01'(True) to 38°40'30.5" S 146°52'16.6" E (WGS84), thence in a direction 000d0'(True) to 38°38'54.5" S 146°52'16.6" E (WGS84) on the shore in the vicinity of St Margaret Island.
LK.6	Geelong	Area of water west of an imaginary north/south line on Lon 144° 40'E from land off Portarlington to point close to Wedge Point.

Code	Declared water	Limits
LK.7	Gippsland Lakes	<p>As declared in Victorian Government Gazette G25 27 June 1996 unless otherwise noted.</p> <p>(a) All waters of Lake King, Lake Victoria, Lake Wellington and Lake Reeve and all bays, channels, arms and straits connected with those waters, up to the boundaries given in paragraphs (h) to (i) where applicable; and</p> <p>(b) the navigable rivers creeks flowing, from the boundaries given in paragraphs (k) to (q) where applicable, into the waters described in paragraph (a); and</p> <p>(c) removed</p> <p>(d) land in the township of Lakes Entrance, Parish of Colquhoun, being part of the reserved Crown Lands being part of Crown Allotment 83C, and</p> <p>(e) land on Bullock Island being Crown Allotment 84U containing 7336 square meters in Parish of Colquhoun, locally known as the Port Depot; and</p> <p>(f) land on Bullock Island being Crown Allotment 84E in the Parish of Colquhoun, locally known as the Tank Farm; and</p> <p>(g) land at Paynesville being Crown Allotment 147D in the Parish of Bairnsdale, locally known as the Paynesville Slip-yard.</p> <p>(h) The water of Cunninghame Arm upstream to a boundary being the western edge of the causeway crossing Cunninghame Arm on Eastern Beach Road.</p> <p>(i) The waters of North Arm upstream to a boundary being a line drawn between the two opposite banks bearing 270° 00' (True) and passing through the point 37° 51.214'S, 147° 58.429'E.</p> <p>(j) The waters of Lake Reeve upstream to a boundary being the eastern edge of the Loch Sport causeway.</p> <p>(k) The waters of the Tambo River upstream to a boundary being a line drawn between the two opposite banks bearing 278° 30' (T) and passing through the point 37° 47.40'S, 147° 50.597'E.</p> <p>(l) The waters of Slaughterhouse Creek upstream to a boundary being a line drawn between the two opposite banks bearing 244° 30' (True) and passing through the point 37° 50.885'S, 147° 47.466'E.</p> <p>(m) The waters of the Nicholson River upstream to a boundary being a line drawn between the opposite banks bearing 270° 0' (True) and passing through the point 37° 46.978'S, 147° 43.475'E</p> <p>(n) The waters of the Mitchell River upstream to a boundary being a line drawn between the two opposite banks bearing 360° 0' (True) and passing through the point 37° 48.845'S, 147° 36.297'E and including the waters of Clifton Creek up to a boundary being a line drawn between the two opposite banks bearing 270° 0' (True) and passing through the point 37° 48.258'S, 147° 37.487'E</p> <p>(o) The waters of Toms Creek upstream to a boundary being a line drawn between the two opposite banks bearing 290° 0' (T) and passing through the point 38° 01.621'S, 147° 28.104'E.</p> <p>(p) The waters of the Avon River upstream to a boundary being a line drawn between the two opposite banks bearing 236° 30' (True) and passing through the point 38° 01.985'S, 147° 14.877'E and including the waters of the Perry River upstream to a boundary being a line between the two opposite banks bearing 270° 0' (True) and passing through the point 38° 01.696'S, 147° 15.997'E.</p> <p>(q) The waters of the Latrobe River upstream to a boundary being a line drawn between the two opposite banks bearing 300° 30' (True) and passing through the point 38° 08.706'S, 147° 53.118'E and including the waters of the Thompson River upstream to a boundary being a line drawn between the opposite banks bearing 354° 0' (True) and passing through the point 38° 46.770'S, 147° 03.971'E and including the waters of the Sale Canal upstream to a boundary being a line drawn between the two opposite banks bearing 003° 30' (True) and passing through the point 38° 06.986'S, 147° 03.593'E.</p>

Code	Declared water	Limits
LK.8	Lakes Entrance Bar including the requirements for passenger vessels	The sand bar at the entrance to the Port of Gippsland Lakes as shown on the chart AUS 182 "Australia—South Coast—Plans in Victoria—South East Coast—Lakes Entrance", published by the Australian Hydrographic Service from time to time.
LK.9	Maribyrnong River – no 1 Maribyrnong Berth to Canning Street	Upstream north of imaginary line from south end of Yarraville wharf No.6 Light leading 053° (True) to shores on the opposite bank.
LK.10	Port of Geelong	As prescribed in Victorian Government Gazette G 51 of 21 December 2000.
LK.11	Port of Melbourne	As prescribed in Victorian Government Gazette G 51 of 21 December 2000.
LK.12	Port of Port Fairy	Area of navigable waters within the Moyne River up to an imaginary line meeting the flashing green and flashing red lights at the end of the breakwaters at the river mouth. (Ref Chart Aus 141).
LK.13	Port of Portland	Area of waters covered within the breakwaters and between an imaginary line prolonged from the Lee Breakwater to Main Breakwater. (Ref Chart Aus 141).
LK.14	Port of Queenscliff and adjacent waters of Port Phillip Bay	The waters west of an imaginary north/south line from Queenscliff Ferry Terminal pier light to the shores on the opposite bank of Sand Island.
LK.15	Passenger operations through Port Phillip Heads	The waters between a straight line drawn between Point Lonsdale and Point Nepean and the seaward limits of a line drawn on an arc of a radius of 3 nm centred on Point Lonsdale as shown on the chart AUS 143 "Australia—South Coast—Victoria—Port Phillip", published by the Australian Hydrographic Service on 2 May 1973.
LK.16	Port and ports of Port Phillip Bay (South)	The waters covered between the imaginary east/west line on Latitude 38° 00'S from Wedge Point and Ricketts Point to an imaginary north/south line on Longitude 144° 40'E from Queenscliff Pier to opposite shores on Nepean Bay.
LK.17	Warrnambool	The water area covered by, from land, a north/south line on Lon 142° 28"E leading south to Lat 38° 25'S, then a line to lead east up to Long 142° 30"E, then leading north to meet land on Lady Bay.
LK.18	Port and ports of Port Phillip Bay (North)	The waters covered between the imaginary east/west line on Latitude 38° 00'S from Wedge Point to Ricketts Point and an imaginary line from Williamstown Breakwater pier light to No.21 Fairway Buoy at Williamstown Channel.
LK.19	Yarra River	Waters of the River Yarra upstream from an imaginary line from Williamstown Pier light to Fairway Buoy No.21 at Williamstown Channel.
LK.20	Westernport and Hastings (Western Channel and East Arm)	The waters of Western Channel is covered between the imaginary line from West Head (Lat 38° 29.25'S Lon 145° 01.9'E) to southern tip of Seal Rock ( Lat 38° 31.72'S Lon 145° 06.0'E) to Point Grant (Lat 38° 31.2'S Lon 145° 07.0'E) then to an imaginary line joining Sandy Point (Lat 38° 24.55'S Lon 145° 14.2'E) to Tortoise Point (Lat 38° 24.5'S Lon 145° 16.2'E), and the East Arm waters covered by an imaginary line between Observation Point (Lat 38° 27.15'S Lon 145° 18.0'E) and Peck Point (Lat 38° 24.98'S Lon 145° 19.2'E).
LK.21	Westernport (North Channel)	The waters covered between an imaginary line from Sandy Point (Lat 38° 24.55'S Lon 145° 14.2'E) to Tortoise Point (Lat 38° 24.5'S Lon 145° 16.2'E) and an imaginary north/south line from Scrub Point (Lat 38° 17.0'S Lon 145° 17.45'E) to shores on Quail Island.
LK.22	Westernport (Eastern Waters)	The waters captured between the eastern shores mainland and French Island and then Phillip Island. From Scrub Point (Lat 38° 17'S Lon 145° 17.45'E) a north/south line towards the shores of Quail Island ,the waters east and then south captured by an imaginary line from Peck Point (Lat 38° 24.98'S Lon 145° 19.2'E) to Observation Point (Lat 38° 27.15'S Lon 145° 18.0'E) to an imaginary line at Eastern Entrance between Griffith Point (Lat 38° 32.2'S Lon 145° 22.55'E) and Cape Woolamai (Lat 38° 33.95'S Lon 145° 21.65'E).

## Schedule B

### Types or classes of vessel

The following types or classes of vessel require a master to hold a local knowledge certificate to navigate the vessels in declared waters in Schedule A;

- a trading vessel greater than 12 m in length while navigating within any declared waters in Schedule A that are not pilot required waters
- a trading vessel greater than 12 m in length but no greater than 35 m in length while navigating within any declared waters in Schedule A that are also pilot required waters
- a fishing vessel greater than 35 m in length while navigating within any declared waters in Schedule A that are also pilot required waters
- a commercial vessel greater than 35 m in length which is navigated within the limits of a port specified as being declared waters in Schedule A
- the master of a commercial vessel irrespective of length that is carrying passengers through Port Phillip Heads
- the master of commercial vessel greater than 12 m in length transiting through Port Phillip Heads without passengers.

### Analysis of current local knowledge holders

#### Breakdown of local knowledge certificate holders by declared water

Current records indicate that there are 374 individual vessel masters who hold a combined total of 685 local knowledge certificates in Victoria. **Table A** contains a breakdown of these certificates by declared water.

**TABLE A**

Local knowledge code	Declared water	Numbers of certificates issued
LK.1	Apollo Bay	Nil
LK.2	Barwon Heads	Nil
LK.3	Corner Inlet – Restricted to approaches to Corner Inlet and Barry Beach large vessels	75
LK.4	Corner Inlet	19
LK.5	Port Albert	13
LK.6	Geelong	4
LK.7	Gippsland Lakes	27
LK.8	Lakes Entrance Bar including the requirement for passenger vessels	36
LK.9	Maribyrnong River - No.1 Maribyrnong Berth to Canning Street	33
LK.10	Port of Geelong	52
LK.11	Port of Melbourne	110
LK.12	Port of Port Fairy	1
LK.13	Port of Portland	12
LK.14	Port of Queenscliff and adjacent waters of Port Phillip Bay	21
LK.15	Passenger operations through Port Phillip Heads	105
LK.16	Port and ports of Port Phillip Bay (South)	50
LK.17	Warrnambool	1
LK.18	Port and ports of Port Phillip Bay (North)	15
LK.19	Yarra River	45
LK.20	Westernport and Hastings (West Channel and East Arm)	46
LK.21	Westernport (North Channel)	13
LK.22	Westernport (Eastern Waters)	7

## **Current process for applying for a local knowledge certificate**

### **Requirements for all certificates**

To be eligible for a local knowledge certificate, an applicant must meet several mandatory requirements.

The applicant must submit the specified application form and attach the following:

- evidence of holding a valid CoC for the type or class of vessel the applicant operates
- evidence of completion of any training required by the Safety Director pursuant to section 82(2)(b)(ii) of the MSA
- evidence of suitable experience appropriate to the State waters to which the local knowledge certificate will apply (that is. trips in and out of the applicable waters when accompanying another qualified master)
- evidence of completion of any examination required for the local knowledge area applied for.

Note - Additional requirements for specific waters are discussed in paragraphs relating to Port Phillip Heads, Lakes Entrance Bar and Port of Corner Inlet.

### **Particular requirements for certain declared waters**

#### **Particular requirements when applying for a local knowledge certificate for operators carrying passengers through Port Phillip Heads**

Pursuant to section 82(2)(b)(ii) of the MSA, the master must successfully complete a training course approved by Transport Safety Victoria that covers local knowledge, operating guidelines and vessel and passenger safety. Evidence of successful completion must be in the form of a course completion certificate issued by the relevant training provider.

#### **Particular requirements when applying for a local knowledge certificate for operators not carrying passengers through Port Phillip Heads**

The applicant must provide evidence of suitable qualifications and experience appropriate to the area defined as Port Phillip Heads. Applicants will be required to complete an examination on the local knowledge area applied for. Evidence will be in the form of a statement of results issued by the examiner advising of the successful completion of a local knowledge examination.

#### **Particular requirements when applying for a local knowledge certificate for passenger carrying vessels across the Lakes Entrance Bar**

Pursuant to section 82(2)(b)(ii) of the MSA, the master must successfully complete a training course approved by TSV that covers local knowledge, operating guidelines and vessel and passenger safety. Evidence of successful completion must be in the form of a course completion certificate issued by the relevant training provider.

In addition, the following pre-requisite qualifying sea service must be completed by an applicant to demonstrate that he or she has suitable experience pursuant to section 82(2)(b)(i).

- An applicant who intends to carry passengers across Lakes Entrance Bar must have completed a minimum of 20 outward crossings and 20 inward crossings of the Lakes Entrance Bar (no more than two crossings in any 24 hour period shall be counted as qualifying sea service).
- On each crossing of the Lakes Entrance Bar, the applicant must be at the helm and in charge of a trading or fishing vessel.

#### **Particular requirements when applying for a local knowledge certificate for non-passenger carrying vessel operators carrying passengers across the Lakes Entrance Bar**

Provide evidence that the applicant has suitable qualifications and experience appropriate to the area defined as Lakes Entrance Bar. Applicants will be required to complete an examination on the local knowledge area applied for. Evidence will be in the form of a statement of results issued by the examiner advising of the successful completion of a local knowledge examination.

In addition, the following pre-requisite qualifying sea service must be completed by the master to show that he or she has suitable experience pursuant to section 82(2)(b)(i).

- An applicant who intends to transit across Lakes Entrance Bar must have completed a minimum of 20 outward crossings and 20 inward crossings of the Lakes Entrance Bar (no more than two crossings in any 24 hour period shall be counted as qualifying sea service).
- On each crossing of the Lakes Entrance Bar, the applicant must be at the helm and in charge of a commercial vessel.

#### **Particular requirements when applying for a local knowledge certificate for the Port of Corner Inlet**

The master must complete the following pre-requisite qualifying sea service to show that he or she has suitable experience pursuant to section 82(2)(b)(i).

- Six trips in and six trips out (two in the hours of darkness) of the Port of Corner Inlet.



## Fees and costs of current scheme

The prescribed fees, subject to indexation, associated with the administration, training and examination for each local knowledge required waters is as follows:

### TSV costs

Issue fee	\$62.60
Oral examination Fee (per local knowledge area)	\$91.10
Total fee	\$153.70

The fees listed above contribute towards the total administrative costs for each local knowledge endorsement. Note: Port Phillip Heads and Lakes Entrance Bar do not attract a separate oral examination fee as this is incorporated in the mandatory training course fee .

### Port Phillip Heads and Lakes Entrance Bar training course costs

Port Phillip Heads	\$225.00
Lakes Entrance Bar	\$340.00

## Review methodology

### Legislative considerations

In making decisions relating to local knowledge requirements, regard will be had to the decision-making principles and transport system objectives of the TIA, and will be made in accordance with TSV policy P111, TIA compliance - cost benefit analysis / consultation on mandatory decisions. Regard will also be had to the objects of the MSA and the principles of marine safety set out in that Act.

### TSV's regulatory approach

In line with its overarching Regulatory Approach Policy, TSV employs an independent and impartial, risk-focused, proportionate, accountable and transparent approach to relevant decisions. The decision making process is evidence-based and consultative, with a focus on the risk of harm, the adequacy of existing risk controls and the likely efficacy of additional controls. The approach to decision making is proportionate to the size and scale of the implications of the decision.

### Catalysts for decisions

TSV will consider making a relevant decision where there is evidence that suggests that the existing risk controls in place on a given waterway are not sufficient, or may not be sufficient, or that other risk controls may be equally or more effective to reduce risk to an acceptable level. Potential sources for this evidence are:

- changes or additions to waterway use or local infrastructure
- waterway audits conducted by TSV
- risk assessments undertaken by TSV, waterway or port managers
- incident data
- anecdotal evidence from waterway users.

### Risk-based decision making

The primary decision making tool for making a relevant decision is a risk assessment, informed by relevant information, data and expert advice. The risk assessment should have regard to the nature and character of the area and its usage, including but not limited to evaluation of the factors such as:

- size and manoeuvrability of vessels using/proposing to use the waters
- type of cargo (particularly when hazardous) including passengers
- types of vessels, volume and density of all traffic both commercial and recreational
- dimensions and characteristics of navigable waters, for example. channels, swinging basins, berthing pockets
- dimensions and characteristics of port berths including fendering characteristics, approach and exit limitations, mooring arrangements and cargo discharge/loading facilities
- availability, proximity and visibility of aids to navigation
- ability of mariners (particularly operating in a second language) to interact in close proximity to other vessels and port infrastructure, particularly in high traffic volume situations and in unfamiliar waters
- water depth and variations to predicted water depth due to factors such as tides, water outflows or meteorological conditions
- oceanographic factors such as wind swell and wave patterns
- local tides, currents and weather patterns
- local propensity and predictability for siltation and shifting of shoals or channels
- the availability of distinctive shoreline features for both visual and radar navigation

- visibility of navigational features in poor weather or at night including back-light pollution
- issues caused by competition for limited space between different water user groups
- frequency and severity of reported incidents
- continuous assessment of any new and emerging risks.

When the risk assessment demonstrates that existing controls are not sufficient to reduce risk to a tolerable level, consideration needs to be given to whether imposing local knowledge requirements will reduce risk to an acceptable level.

Note: MSV policy P365, '**Commercial Maritime Operations – Declaration of pilot required and local knowledge waters and determination of waters that require a harbor master' (Attachment 1)** provides the methodology to be used and contains further criteria, descriptors and additional explanation to inform and guide the risk assessment process.

## Risk assessment workshops

### Locations and participants

The risk assessment phase of the review process was undertaken in two stages.

The first stage focused on the local knowledge declared waters that exist in the smaller local ports. These were:

- Apollo Bay (LK1)
- Barwon Heads (LK2)
- Port Fairy (LK12)
- Warrnambool (LK17).

The review of these waters involved discussions with the appropriate local port manager and their responses to a series of questions on the relevance of local knowledge to their waters.

The second stage focused on the remaining local knowledge declared waters. The review of these waters took the form of a series of risk workshops involving the following key stakeholder groups where relevant:

- harbour masters
- pilotage service providers
- local port managers
- examiners
- accredited training providers
- MSV staff.

Following is a list of each workshop conducted with a description of the declared waters assessed during those workshops:

#### Port Phillip Bay

- Geelong (LK6)
- Maribyrnong River (LK9)
- Port of Geelong (LK10)
- Port of Melbourne (LK11)
- Port of Queenscliff (LK14)
- Passenger operations through Port Phillip Heads (LK15)
- Port Phillip Bay South (LK16)
- Port Phillip Bay North (LK18)
- Yarra River (LK19)

#### Portland

- Port of Portland (LK13)

#### Westernport Bay

- Westernport and Hastings (LK20)
- Westernport North Channel (LK21)
- Westernport Eastern Waters (LK22)

#### Gippsland

- Corner Inlet – approaches and Barry Beach (LK3)
- Corner Inlet (LK4)
- Port Albert (LK5)
- Gippsland Lakes (LK7)
- Lakes Entrance Bar (LK8)

## Risk Assessment Process

The workshops were undertaken in accordance with the approach detailed in **Appendix 1** of **Attachment 1**. This document provides the underlying purpose and methodology for the conduct of the risk assessments, in addition to establishing waterway and vessel risk criteria for consideration.

### *Establishing the context*

As with all risk management activities, the first step was to establish the context around which all relevant risks could be more readily identified.

It was acknowledged that, in addition to the requirement for local knowledge certification, several other key measures already exist and are in place to mitigate risks posed by the navigation of vessels through these waters.

These measures include:

- the requirement for the appropriate CoC to be held by the master of a commercial vessel
- the existence of harbour masters and the functions and powers bestowed upon them to control navigation and provide vessel traffic information services
- published harbourmaster directions, charts, notices to mariners and other publically available information
- the existence of state and local waterway rules
- the requirement for pilotage or pilot exempt master certification
- the existence of aids to navigation.

The context in terms of identifying any residual risk (that could potentially be mitigated by the application of a local knowledge requirement) was established by posing the following question.

“Do any risks to navigational safety exist within these waters that you would not expect an appropriately qualified master to be able to identify and address?”

If the answer to this question is ‘no’, it is to be accepted that the requirement for declared local knowledge in its current form to address any residual risk was not necessary.

## Risk assessment outcomes

The results of the risk assessment process are detailed in **Table B** and include any risks identified in answer to the risk context question.

**Attachment 2** contains the individual risk assessment worksheets for those local knowledge declared waters where specific risks were identified.

**TABLE B****Results of risk assessments**

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.1</b>	Apollo Bay	Nil	Revoke local knowledge declaration
<b>LK.2</b>	Barwon Heads	Nil	Revoke local knowledge declaration
<b>LK.3</b>	Corner Inlet - Restricted to approaches to Corner Inlet and Barry Beach large vessels	<p>Shifting shoals and sand banks at the entrance to Corner Inlet.</p> <p>Extreme tides and currents to the northern side of the entrance.</p> <p>Extreme weather resulting in strong winds, tides and currents at the entrance.</p> <p>Variable water depths and the existence of narrow winding channels makes safe navigation difficult.</p> <p>Varying size and types of vessel activity and congestion issues associated with recreational vessel traffic.</p> <p>Passenger carrying DCVs operate regularly through the waters.</p> <p>Hazardous cargo including explosives and glycol regularly transported.</p> <p>Highly sensitive environmental area.</p>	<p>Retain local knowledge declaration within its existing boundary.</p> <p>Strengthen existing examination process to include risks that exist within the waters and approaches to Port Franklin.</p> <p>Consider a tiered approach in the examination process to account for operations within Port Welshpool, Port Franklin and Barry Beach.</p>
<b>LK.4</b>	Corner Inlet	LK.4 overlaps the declared waters contained within LK.3 and LK.5 and is a duplication.	Revoke LK.4 declaration

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.5</b>	Port Albert	<p>Shifting sand shoals at the entrance create a migratory bar crossing.</p> <p>Entrance is heavily swell affected and influenced by wind and tide.</p> <p>Entrance and approaches are subject to frequent and variable changes in sea bed and affected by frequent and variable changes in sea conditions.</p> <p>Flat shoreline topography provides very few geographical features to aid in navigation.</p> <p>Narrow and winding channel leading up to the berths.</p> <p>Navigation through entrance and within channels restricted to shallow draft vessels (approx. 2 m)</p> <p>Recreational vessel congestion high at times.</p> <p>Low number of large and small passenger carrying DCVs operating out of Port Albert.</p> <p>Highly sensitive environmental area.</p>	<p>Retain local knowledge declaration within its existing boundary.</p> <p>Strengthen existing examination process to include contemporary and relevant risks that exist.</p> <p>Recommendation that the requirement for local knowledge extends to all passenger carrying DCVs transiting the entrance regardless of size.</p>
<b>LK.6</b>	Geelong	Nil	<p>Revoke local knowledge declaration.</p> <p>Strengthen harbour master's direction (HMD) requirements for masters of vessels &lt;35 m to contact harbour master (HM) prior to entry to port. HM will be responsible for detailing local requirements on a case by case basis.</p> <p>Vessels &gt;35 m are subject to existing pilotage/pilot exempt master (PEM) requirements.</p> <p>Consider a graduated PEM framework.</p>
<b>LK.7</b>	Gippsland Lakes	Nil	Revoke local knowledge declaration

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.8</b>	Lakes Entrance Bar including the requirement for passenger vessels	<p>Considerable shoaling and shifting sands at the bar entrance. Entrance is heavily swell affected and influenced by wind and tide.</p> <p>Entrance and approaches are subject to frequent and variable changes in sea bed and affected by frequent and variable changes in sea conditions.</p> <p>Unpredictable sea state at entrance and on approaches.</p> <p>Long history of incidents involving vessel broaching/capsizing while attempting to cross the bar.</p> <p>Shifting sands and variable changes to sea bed exist inside the Lakes Entrance Bar.</p> <p>Very large numbers of recreational vessels exist at peak times creating congestion issues at and around the entrance.</p> <p>High congestion and competing use by vessels of all types and sizes directly inside the bar entrance.</p> <p>Highly sensitive environmental area.</p>	<p>Retain local knowledge declaration.</p> <p>Re-define the boundaries of the declared waters to include a 1m radius seaward of the Bar and to include the waters immediately inside the bar within the following boundaries:</p> <ul style="list-style-type: none"> <li>• footbridge over Cunningham Arm</li> <li>• Bullock Island road bridge</li> <li>• entrance to North Arm from Jemmy's Point to Bullock Island</li> <li>• The Narrows extending west to Lon 147° 57'</li> <li>• a line at the entrance to Hopetoun Channel</li> </ul> <p>Re-name declaration as "Lakes Entrance"</p> <p>Retain training and examination requirements for passenger carrying vessels.</p>
<b>LK.9</b>	Maribyrnong River - No.1 Maribyrnong Berth to Canning Street	<p>Nil risks identified on waters upstream of Shepherd Bridge.</p> <p>Port of Melbourne waters within the Maribyrnong River downstream of Shepherd Bridge to be included within LK.18 "Port of Melbourne North".</p>	<p>Revoke local knowledge declaration</p>
<b>LK.10</b>	Port of Geelong	<p>Nil</p>	<p>Revoke local knowledge declaration.</p> <p>Strengthen HMD requirements for masters of vessels &lt;35 m to contact HM prior to entry to port. HM will be responsible for detailing local requirements on a case by case basis.</p> <p>Vessels &gt;35m are subject to existing pilotage/PEM requirements.</p> <p>Consider a graduated PEM framework.</p>
<b>LK.11</b>	Port of Melbourne	<p>The current Port of Melbourne requirements will be captured by the re-defined declarations of LK.15 (Port Phillip Heads) and LK.18 (Port of Melbourne North).</p>	<p>Revoke local knowledge declaration</p>

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.12</b>	Port of Port Fairy	Nil	Revoke local knowledge declaration
<b>LK.13</b>	Port of Portland	Some risk of collision between vessels 12 m > 35 m due to confined nature of port. Vessels >35 m subject to pilotage/PEM requirements	Revoke local knowledge declaration. Strengthen HMD requirements for masters of vessels <35 m to contact HM prior to entry to port. HM will be responsible for detailing local requirements on a case by case basis. Vessels >35 m are subject to existing pilotage/PEM requirements. Consider a graduated PEM framework.
<b>LK.14</b>	Port of Queenscliff and adjacent waters of Port Phillip Bay	Nil	Revoke local knowledge declaration

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.15</b>	Passenger operations through Port Phillip Heads	<p>Significant eddies exist in the western part of port waters directly outside the Heads on an ebb tide.</p> <p>Refraction and reflection of waves significantly affect smaller vessels.</p> <p>Significant swell and wave heights exist in the Heads and within the approach waters.</p> <p>Significant wave heights exist immediately inside the entrance to Port Phillip Bay (PPB).</p> <p>Strong, variable and unpredictable tides and currents exist at the Heads and immediately inside the entrance.</p> <p>Very large numbers of recreational vessels exist at peak times creating congestion issues at and around the Heads.</p> <p>High congestion and competing use by vessels of all types and sizes directly inside the bar entrance.</p> <p>Large foreign going vessels are even more restricted to existing channels since channel deepening occurred (less room to navigate)</p> <p>Large foreign going ships require significant area of water outside heads to facilitate setting up a suitable approach.</p> <p>Certain meteorological and environmental conditions exist where aids to navigation are less visible.</p> <p>Significant levels of back light pollution.</p> <p>All manner of high risk cargo transiting through this area.</p>	<p>Retain local knowledge declaration.</p> <p>There are two recommendations for re-defining the boundaries of the declared waters.</p> <p><u>Option 1</u></p> <ul style="list-style-type: none"> <li>A 3 nm radius seaward of the heads from Point Lonsdale and to include the waters immediately inside the Heads within the following boundaries:</li> <li>a straight line from Point Nepean to Shortland Bluff</li> <li>a straight line from Point Lonsdale to Shortland Bluff.</li> </ul> <p>This will align with the proposed new boundary that declares Port Phillip Heads as designated hazardous waters.</p> <p><u>Option 2</u></p> <ul style="list-style-type: none"> <li>A 3nm radius seaward of the heads from Point Lonsdale and to include the waters immediately inside the Heads within the following boundaries:</li> <li>a straight line from Point Lonsdale to Shortland Bluff</li> <li>a straight line from Shortland Bluff to the 'Popes Eye' south cardinal mark located in the south channel</li> <li>a straight line from the Popes Eye south cardinal mark, through the Entrance Beacon north cardinal mark to Observatory Point.</li> </ul> <p>Retain training and examination requirements for passenger carrying vessels.</p> <p>Re-name declaration as "Port Phillip Heads".</p>
<b>LK.16</b>	Port and Ports of Port Phillip Bay (South)	Risks identified for the waters of PPB South are proposed to be included in the re-defined boundary of LK.15. This will address those risks identified within PPB South.	Revoke local knowledge declaration.

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.17</b>	Warrnambool	Nil	Revoke local knowledge declaration
<b>LK.18</b>	Port and Ports of Port Phillip Bay (North)	<p>Foreign going ships navigating the transit only zone face risk of collision with DCVs also navigating in this area.</p> <p>Narrow winding channels in the approaches to and within the Yarra River.</p> <p>Approaches to, and waters of, the Yarra River are subject to significant tides and currents, particularly following heavy rains.</p> <p>Localised strong cross winds.</p> <p>Significant issues with vessel congestion and peak times.</p> <p>Hazardous cargo transiting through these waters.</p> <p>Narrow channel within the port precinct.</p> <p>Competing use between commercial shipping, recreational vessels, DCVs and small passive craft (such as rowers) exists.</p> <p>Significant number of incidents involving DCVs within these waters, in particular, close quarters incidents with foreign going ships.</p>	<p>Retain local knowledge declaration.</p> <p>Re-define boundary to include the following:</p> <ul style="list-style-type: none"> <li>• Port of Melbourne waters north of Lat 38°00'S.</li> <li>• Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge</li> <li>• Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge.</li> </ul> <p>Re-name "Port of Melbourne"</p>
<b>LK.19</b>	Yarra River	<p>Narrow, winding channels.</p> <p>Shallow depth in parts.</p> <p>Localised strong cross winds.</p> <p>Significant issues with vessel congestion and peak times.</p> <p>High levels of competing use and vessel congestion.</p> <p>Low bridges.</p> <p>Shifting shoals and sand banks.</p>	<p>Retain local knowledge declaration.</p> <p>Re-define boundary to include the following:</p> <ul style="list-style-type: none"> <li>• waters of the Yarra River upstream of the western drip line of Bolte Bridge to Dights Falls.</li> </ul> <p>Re-name "Yarra River – Parks Victoria waters"</p>

Local knowledge code	Declared water	Identified (residual) risks	Recommendations
<b>LK.20</b>	Westernport and Hastings (West Channel and East Arm)	The existence of strong tidal currents, prevailing winds and tides pose risks of damage to berthing infrastructure by larger vessels (>35 m) under the command of unfamiliar masters.	<p>Revoke local knowledge declaration.</p> <p>Strengthen HMD requirements for masters of vessels &lt;35 m to contact HM prior to entry to port. HM will be responsible for detailing local requirements on a case by case basis.</p> <p>Vessels &gt;35 m are subject to existing pilotage/PEM requirements.</p> <p>Consider a graduated PEM framework.</p>
<b>LK.21</b>	Westernport (North Channel)	As per LK.20	As per LK.20
<b>LK.22</b>	Westernport (Eastern Waters)	As per LK.20	As per LK.20

# Options under consideration

Maritime Safety Victoria seeks comments and feedback on the recommendations for reform presented in **Table B**.

These options are summarized below.

## **Waters where local knowledge waters and certification declarations are recommended to be revoked:**

- LK.1 – Apollo Bay
- LK.2 – Barwon Heads
- LK.4 – Corner Inlet (amalgamated with LK.3 and LK.5)
- LK.6 – Geelong
- LK.7 – Gippsland Lakes
- LK.9 – Maribyrnong River – No 1 Maribyrnong berth to Canning Street
- LK.10 – Port of Geelong
- LK.11 – Port of Melbourne (amalgamated with LK.15 and LK.18)
- LK.12 – Port of Port Fairy
- LK.13 – Port of Portland
- LK.14 – Port of Queenscliff and adjacent waters of Port Phillip Bay
- LK.16 – Port of Port Phillip Bay (South) (amalgamated with LK.15)
- LK.17 – Warrnambool
- LK.20 – Westernport and Hastings (Western Channel and East Arm)
- LK.21 – Westernport (North Channel)
- LK.22 – Westernport (Eastern Waters)

The risk assessment process undertaken for these waters indicated that local knowledge was not warranted as an additional mitigation measure to any identified risks.

## **Waters where it is recommended local knowledge waters declarations are retained/modified and certification requirements amended:**

- LK.3 – Corner Inlet – restricted to approaches to Corner Inlet and Barry Beach large vessels.
  - Retain local knowledge declaration within its existing boundary.
  - Strengthen existing examination process to include risks that exist within the waters and approaches to Port Franklin.
  - Consider a tiered approach in the examination process to account for operations within Port Welshpool, Port Franklin and Barry Beach.
- LK.5 – Port Albert
  - Retain local knowledge declaration within its existing boundary.
  - Strengthen existing examination process to include contemporary and relevant risks that exist.
  - Recommendation that the requirement for local knowledge extend to all passenger carrying DCVs transiting the entrance regardless of size.
- LK.8 – Lakes Entrance Bar including the requirements for passenger vessels
  - Retain local knowledge declaration.
  - Re-define the boundaries of the declared waters to include a 1 nm radius seaward of the Bar and to include the waters immediately inside the Bar within the following boundaries:
    - footbridge over Cunninghame Arm
    - Bullock Island road bridge
    - entrance to North Arm from Jemmy's Point to Bullock Island
    - The Narrows extending west to Lon 147° 57'
    - a line at the entrance to Hopetoun Channel.
  - Re-name declaration as "Lakes Entrance"
  - Retain training and examination requirements for passenger carrying vessels.
- LK.15 – Passenger operations through Port Phillip Heads
  - Retain local knowledge declaration.
  - There are two recommendations for re-defining the boundaries of the declared waters.

### **Option 1**

- A 3 nm radius seaward of the heads from Point Lonsdale and to include the waters immediately inside the heads within the following boundaries:
  - a straight line from Point Nepean to Shortland Bluff
  - a straight line from Point Lonsdale to Shortland Bluff.

This will align with the proposed new boundary that declares Port Phillip Heads as designated hazardous waters.

### **Option 2**

- A 3 nm radius seaward of the Heads from Point Lonsdale and to include the waters immediately inside the heads within the following boundaries:
  - a straight line from Point Lonsdale to Shortland Bluff

- a straight line from Shortland Bluff to the Popes Eye south cardinal mark located in the south channel
- a straight line from the Popes Eye south cardinal mark, through the Entrance Beaco' north cardinal mark to Observatory Point.
- Retain training and examination requirements for passenger carrying vessels.
- Re-name declaration as "Port Phillip Heads".

This option aligns the proposed boundary with a recent coronial recommendation.

- LK.18 – Port of Port Phillip Bay (North)
  - Retain local knowledge declaration.
  - Re-define boundary to include the following:
    - Port of Melbourne waters north of Lat 38°00'S.
    - Port of Melbourne waters of the Yarra River upstream to the western drip line of Bolte Bridge
    - Port of Melbourne waters of the Maribyrnong River upstream to Shepherd Bridge.
  - Re-name "Port of Melbourne North"
- LK.19 – Yarra River
  - Retain local knowledge declaration.
  - Re-define boundary to include the following:
    - Waters of the Yarra River upstream of the western drip line of Bolte Bridge to Dights Falls
    - Re-name "Yarra River – Parks Victoria waters"

The risk assessment process undertaken for these waters indicated that local knowledge was, to some extent, warranted as an additional mitigation measure to the existing identified risks.

## Regulatory impact

TSV will undertake further consultation before finalising changes to the requirements for local knowledge, including having regard to the potential consequences of these decisions and the decision-making principles set out in the TIA. Appropriate consultation will include an invitation to relevant stakeholders including harbour masters, local port managers, pilotage service providers and other industry participants to contribute to:

- risk assessment workshops
- discussion forums
- advice relating to appropriate boundaries
- review of draft declarations and determinations where required.

Based on the options identified to date it is anticipated there would be a reduction in regulatory burden. Prior to making a relevant decision that is likely to impose a significant economic or social burden on a sector of the community, TSV will undertake further detailed economic analysis.

# ATTACHMENT 1 – Policy Document

Policy  
P365  
Effective date: 20150423



## Commercial Maritime Operations - Declaration of pilot required and local knowledge waters and determination of waters that require a harbour master

### 1. Purpose

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The *Marine Safety Act 2010* (Vic) (MSA) gives the Safety Director power to declare a part of State waters to be pilot required waters or local knowledge waters. The MSA also gives the Safety Director power to determine a part of State waters to be waters for which a harbour master is required to be engaged. This policy supports the effective exercise of those powers by establishing a high level risk-based decision-making framework to assist and structure such decisions.

This policy aligns with Transport Safety Victoria's (TSV's) Regulatory Approach by applying an independent and impartial, risk-focused, proportionate, accountable and transparent regulatory approach to decisions relating to declarations of pilot required and local knowledge waters and determinations of waters that require a licensed harbour master (relevant decisions).

The policy also aligns with the *Transport Integration Act 2010* (Vic) (TIA) transport system objectives of economic prosperity, environmental sustainability and safety and health and wellbeing.

### 2. Scope

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#### 2.1 Scope of this policy

This policy covers the making by the Safety Director of:

- a declaration that a part of State waters is waters in which a licensed pilot is required to be engaged.
- a declaration that a part of State waters is waters in respect of which a local knowledge certificate is required to navigate a vessel.
- a determination that a part of State waters is waters for which a licensed harbour master is required to be engaged.

#### 2.2 Features of this policy

This policy outlines:

- the purpose of pilotage, local knowledge and harbour master requirements within the broader framework of maritime safety regulation.
- an overview of Victorian waterways and the current application of pilotage, local knowledge and harbour master requirements.
- the legislative framework governing pilotage, local knowledge and harbour master requirements.
- TSV's approach to making decisions relating to pilotage, local knowledge and harbour master requirements.

### 3. Definitions

Term	Definition
<b>decision-making principles</b>	<p>The 7 decision-making principles set out in Part 2 of the TIA that transport bodies must have regard to when making decisions under transport legislation:</p> <ul style="list-style-type: none"> <li>• Integrated decision-making</li> <li>• Triple bottom line assessment</li> <li>• Equity</li> <li>• Transport system user perspective</li> <li>• Precautionary principle</li> <li>• Stakeholder engagement and community participation</li> <li>• Transparency</li> </ul>
<b>MSA</b>	<i>Marine Safety Act 2010 (Vic)</i>
<b>relevant decision</b>	<p>A decision by the Safety Director to make:</p> <ul style="list-style-type: none"> <li>• a declaration that a part of State waters is compulsory pilotage waters</li> <li>• a declaration that a part of State waters is local knowledge waters, or</li> <li>• a determination that a part of State waters is waters for which a licensed harbour master is required to be engaged.</li> </ul>
<b>Safety Director</b>	<p>The Director, Transport Safety, a statutory office established under s171 of the <i>Transport Integration Act 2010 (Vic)</i> (TIA) for the purpose of independently seeking the highest transport safety standards that are reasonably consistent with the vision statement and the transport system objectives set out in the same Act.</p>
<b>transport legislation</b>	<p>Includes the <i>Bus Safety Act 2009 (Vic)</i>, <i>Marine Safety Act 2010 (Vic)</i>, <i>Rail Safety (Local Operations) Act 2006 (Vic)</i>, <i>Transport (Compliance and Miscellaneous) Act 1983 (Vic)</i>, <i>Transport Integration Act 2010 (Vic)</i> and the <i>Transport (Safety Schemes Compliance and Enforcement) Act 2014</i></p>
<b>TCMA</b>	<i>Transport (Compliance and Miscellaneous) Act 1983 (Vic)</i>
<b>TIA</b>	<i>Transport Integration Act 2010 (Vic)</i>
<b>transport system objectives</b>	<p>The 6 objectives set out in Part 2 of the TIA that transport bodies must have regard to when exercising powers or performing functions under transport legislation:</p> <ul style="list-style-type: none"> <li>• Social and economic inclusion</li> <li>• Economic prosperity</li> <li>• Environmental sustainability</li> <li>• Integration of transport and land use</li> <li>• Efficiency, coordination &amp; reliability</li> <li>• Safety and health and wellbeing</li> </ul>

### 4. Responsibilities

Role	Role in policy
<b>Safety Director</b>	<ul style="list-style-type: none"> <li>• Overall responsibility for compliance with this policy.</li> </ul>
<b>Director of Maritime Safety</b>	<ul style="list-style-type: none"> <li>• Responsibility for approval of this policy and compliance with it when making relevant decisions as the delegate of the Safety Director.</li> </ul>

## 5. Background

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### 5.1 Commercial maritime safety regulation

The objects of MSA are to promote:

- the safety of marine operations;
- the effective management of safety risks in marine operations and in the marine operating environment;
- continuous improvement in marine safety management;
- public confidence in the safety of marine operations;
- involvement of relevant stakeholders in marine safety; and
- a culture of safety among all participants in the marine operating environment.

To achieve these objects, a framework of regulatory interventions has been developed that address risks generally encountered in the maritime environment. TSV has adopted the following systemic approach to implementing these interventions:

- Safe waterways – through the provision of aids to navigation, infrastructure and dredging. Advice to vessel operators such as vessel movement control, berthing instructions and the provision of navigational safety information.
- Safe vessels – through the assessment and certification of both domestic and internationally trading vessel design, construction and equipment.
- Safe waterway users – through the assessment and certification of vessel operators' knowledge, competence and capability.
- Safe operating practices – through the use of common rules, such as the International Regulations for Preventing Collisions at Sea (COLREGS), international and national standards, and organisational safety management systems.

These basic interventions support the regulatory frameworks governing commercial maritime operations at the international, national and state levels. They are targeted at mitigating generic risks which can be expected to arise routinely in the course of maritime operations in any maritime operational environment.

Additionally, the marine environment features locally specific risks that these generic interventions may not adequately address such as:

- increased risk of a touch bottom incident, grounding or stranding due to lack of awareness of local oceanographic features such as reefs, shifting sandbanks, narrow twisting channels and underwater obstructions
- potential for touch bottom incident, grounding or stranding due to unanticipated difficulties in manoeuvring and vessel control resulting from a poor understanding of potentially fast changing local weather conditions including tidal and other localised issues such as cross winds or waves
- increased risk of collision or grounding due to unanticipated difficulty in manoeuvring and vessel control when berthing or swinging because of a poor knowledge of port or harbour infrastructure features
- increased risk of collision due to lack of knowledge of port operational procedures, communication mechanisms and traffic management arrangements when operating in close quarters with other vessels in high traffic density areas and dealing with competing priorities for water space
- potential for creating confusion with other craft operating in congested water areas due to lack of contemporary knowledge of the availability, capability and adequacy of port infrastructure and facilities such as mooring areas, berths and cargo handling equipment.

There may also be factors which increase the severity of the consequences of an incident, for example economic importance, proximity to environmentally sensitive areas, or the carriage of dangerous or sensitive cargos.

To control risks of this type, maritime safety regulation has traditionally included three basic approaches to regulatory intervention intended to target locally-specific risks. These include:

**Pilotage** – generally applied where large foreign going vessels are required to navigate into and out of congested commercial port waters.

- Compulsory pilotage – mandates that a vessel engage a marine pilot with expert local knowledge when navigating in a declared area of water. The pilot assumes conduct of the vessel's navigation but not its command, which remains with the master. Compulsory pilotage may apply to all vessels navigating in the area, or, more commonly, to vessels of particular types or sizes. Currently in Victoria, compulsory pilotage applies (unless otherwise exempted under certain conditions) to all vessels >35m in length when operating in such declared water areas. Currently the following four commercial trading ports are the only declared compulsory pilotage waters in Victoria:
  - Port of Melbourne – managed by the Port of Melbourne Corporation (POMC).
  - Port of Hastings – managed by Patrick Ports
  - Port of Geelong – managed by the Victorian Regional Channels Authority (VRCA)
  - Port of Portland – managed by Port of Portland Pty Ltd (PoP).
- Pilot training and licensing requirements – The Training & Licensing of Marine Pilots for Victorian Ports – Standard 6.2 Issue 2 establishes the pilot licensing requirements for marine pilots undertaking compulsory pilotage in declared waters. The requirements include:

- Establishing a minimum level of competency and seagoing experience
  - Additional training include bridge resource management electronic chart display and information systems (ECDIS) and advanced marine pilot training
  - Observer trips (for on the job training), check trips (to verify competency) and an oral examination
  - Any specific specialised training that may be required for the level of competency standard
  - Any other training that may be required for the maintenance of such level of competency.
- Pilot exemption – a master of a vessel may apply to the Safety Director for an exemption from the requirement to use the services of a pilot in pilot required waters. A Pilot Exemption Certificate may be issued to an applicant who is the master of a vessel that regularly visits any Victorian port with waters subject to pilotage requirements. Pilot Exempt Masters certificates are issued to a specific person for a specific ship in specific waters/berths. The requirements to qualify include:
    - Establishing a minimum level of competency and seagoing experience
    - Additional training include bridge resource management and electronic chart display and information systems (ECDIS)
    - Observer trips (for on the job training), check trips (to verify competency) and an oral examination (reduced from a general Pilot requirement as these relate to one specific vessel only).

**Local Knowledge** – generally applied where relatively small domestic commercial vessels operate in waterways where special local navigational or weather related hazards exist.

The purpose of local knowledge requirements are to ensure that additional and/or specific risks to navigation which arise as a consequence of local conditions are adequately controlled. The requirement for local knowledge provides the mechanism for ensuring that vessel masters are adequately informed about those specific risks, and where it is determined that the required CoC is not sufficient on its own to adequately mitigate those risks, additional controls are required.

In determining the extent to which local knowledge applies to various classes of vessels and masters, consideration needs to be given to the licensing and certification standards that are being applied at the time.

- Compulsory local knowledge – mandates that the master of a vessel operating in a declared area of water must hold a local knowledge certificate attesting to his knowledge regarding the local hazards that may be encountered in that area of water, in addition to the CoC required by a master to operate the vessel. Currently in Victoria, the requirement for a master to have a current local knowledge certificate applies to trading vessels >12m in length and fishing vessels >35m in length when operating in such declared water areas. Within certain restrictions, holding current local knowledge certification may exempt a vessel master from the requirement to engage a pilot when operating in compulsory pilotage waters where these two types of declared waters overlap.
- Local knowledge certification – the Local Knowledge Certificate for Masters of Commercial Vessels Guide 2012 establishes the local knowledge certification requirements for vessel masters operating local knowledge in declared waters. The requirements include:
  - evidence that the applicant has suitable qualifications and experience appropriate to the State waters to which the local knowledge certificate will apply.
  - Completion of an examination on the local knowledge area applied for. The local knowledge examination may include but is not limited to questions relating to navigation aids, geographical features, tidal conditions, statutory requirements, traffic and any other local characteristics, operational condition or anomaly which may relate to safety of navigation.

**Harbour Masters** – generally applied where external third party management of vessel movements and provision of real time navigational information is beneficial e.g. where large foreign going vessels and/or domestic commercial vessels transit through high traffic density water areas with significant navigational hazards and compete for room in limited water space.

- Requirement to appoint a harbour master - Section 220 of the MSA requires the following commercial port managers to engage a harbour master:
  - the Port of Melbourne Corporation for the port of Melbourne waters
  - the Victorian Regional Channel Authority for the port of Hastings waters
  - the Victorian Regional Channel Authority for the port of Geelong waters
  - the Victorian Regional Channel Authority for the port of Portland waters
  - the Safety Director has further determined that the local port manager Gippsland Ports must also engage a harbour master.
- Harbour Master Licensing - Marine Determination 7.2, licensing of harbour masters issue 1, 2005 sets out the licensing requirements for harbour masters. The requirements include:
  - required qualification to provide evidence as to competency, ability and experience to make such decisions in respect of the port waters for which the license is issued
  - attestation by the port manager as to fitness and character
  - to be a fit and proper person
  - to be trained by the port manager to ensure that the functions may be performed adequately and the powers exercised properly
  - to be trained by the port manager to ensure that the person is kept abreast of new technology, environmental issues, legislative changes and requirements, and other matters relating to the role.

## 5.2 Victoria's waterways

Victoria's waterways can be broadly categorised as follows:

- **Commercial trading ports** – commercial trading ports are declared under the Port Management Act 1995 (Vic) (PMA). There are currently four commercial trading ports in Victoria:
  - Port of Melbourne – managed by the Port of Melbourne Corporation (POMC).
  - Port of Hastings – managed by Patrick Ports
  - Port of Geelong – managed by the Victorian Regional Channels Authority (VRCA)
  - Port of Portland – managed by Port of Portland Pty Ltd (PoP).
- **Local ports** – local ports are also declared under the PMA. There are currently 13 local ports in Victoria, managed by 8 local port managers:
  - Gippsland Lakes, Corner Inlet and Port Albert, Snowy River, Mallacoota and Andersons Inlet – managed by Gippsland Ports
  - Port Phillip Bay, Western Port and Port Campbell – managed by Parks Victoria
  - Port Fairy – managed by Moyne Shire Council
  - Apollo Bay – managed by Colac Otway Shire Council
  - Warrnambool – managed by Warrnambool City Council
  - Lorne – managed by the Lorne Foreshore Committee of Management
  - Barwon Heads – managed by the Barwon Coast Committee of Management
  - Portland Bay – managed by Glenelg Shire Council.

At present, the four commercial trading ports are the only declared compulsory pilotage waters in Victoria.

These four ports, along with the port waters of the local ports of Gippsland Lakes, Corner Inlet and Port Albert, are also the only parts of State waters which have been determined to be waters for which a harbour master is required to be engaged.

## 6. Legislative framework

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The MSA gives the Safety Director a range of powers relating to pilotage, local knowledge and harbour masters:

- under section 250, the Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in which a licensed pilot is required to be engaged.
- under section 81, the Safety Director, by notice published in the Government Gazette, may declare a part of State waters as waters in respect of which a local knowledge certificate is required to navigate a vessel.
- under sections 258(1)(q) and 259(1), the Safety Director has the power to determine the parts of State waters (other than the port waters of the port of Melbourne, the port of Geelong, the port of Portland) with respect to which a licensed harbour master is required to be engaged.
- under section 254, the Safety Director may grant a pilot exemption to an applicant from the requirement to use the services of a pilot in pilot required waters.

When making a declaration under sections 81 or 250, or a determination under sections 258(1)(q) and 259(1), the Safety Director must have regard to any guidelines made by the Minister for Ports under section 31A of the TIA. At the time of publication of this policy, guidelines under section 31A had not been made.

Additionally, in exercising these powers, the Safety Director is required to have regard to the transport system objectives and decision making principles set out in Part 2 of the TIA. These objectives and principles are:

- Transport system objectives
- Social and economic inclusion
- Economic prosperity
- Environmental sustainability
- Integration of transport and land use
- Efficiency, coordination and reliability
- Safety and health and wellbeing
- Decision making principles
- Principle of integrated decision making
- Principle of triple bottom line assessment
- Principle of equity
- Principle of the transport system user perspective
- Precautionary principle
- Principle of stakeholder engagement and community participation
- Principle of transparency.

While the Safety Director will have regard to all of the applicable objectives and principles when making relevant decisions, a high weighting is placed on safety, as achieving the highest safety standards reasonably practicable is the primary object of the Safety Director.

## 7. Decision-making process

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### 7.1 Legislative Considerations

In making decisions relating to local knowledge, pilotage and harbour master requirements, regard will be had to the decision-making principles and transport system objectives of the TIA, and will be made in accordance with TSV policy P111, TIA compliance - cost benefit analysis / consultation on mandatory decisions. Regard will also be had to the objects of the MSA and the principles of marine safety set out in that Act.

### 7.2 TSV's Regulatory Approach

In line with its overarching Regulatory Approach policy, TSV employs an independent and impartial, risk-focused, proportionate, accountable and transparent approach to relevant decisions. The decision-making process is evidence-based and consultative, with a focus on the risk of harm, the adequacy of existing risk controls and the likely efficacy of additional controls. The approach to decision making is proportionate to the size and scale of the implications of the decision.

### 7.3 Catalysts for decisions

TSV will consider making a relevant decision where there is evidence that suggests that the existing risk controls in place on a given waterway are not sufficient, or may not be sufficient, to reduce risk to an acceptable level. Potential sources for this evidence are:

- changes or additions to waterway use or local infrastructure.
- waterway audits conducted by TSV.
- risk assessments undertaken by TSV, waterway or port managers.
- incident data.
- anecdotal evidence from waterway users

### 7.4 Risk-based decision making

The primary decision-making tool for making a relevant decision is a risk assessment, informed by relevant information, data and expert advice. The risk assessment should have regard to the nature and character of the area and its usage, including but not limited to evaluation of the factors such as:

- size and manoeuvrability of vessels proposing to use/using the waters
- type of cargo (including passengers and particularly where hazardous)
- types of vessels, volume and density of all traffic both commercial and recreational
- dimensions and characteristics of navigable waters e.g. channels, swinging basins, berthing pockets etc
- dimensions and characteristics of port berths including fendering characteristics, approach and exit limitations, mooring arrangements and cargo discharge/loading facilities
- availability, proximity and visibility of aids to navigation
- ability of mariners (particularly operating in a second language) to interact in close proximity to other vessels and port infrastructure, particularly in high traffic volume situations and in unfamiliar waters
- water depth and variations to predicted water depth due to factors such as tides, water outflows or meteorological conditions
- oceanographic factors such as wind swell and wave patterns
- local tides, currents and weather patterns
- local propensity and predictability for siltation and shifting of shoals or channels
- the availability of distinctive shoreline features for both visual and radar navigation
- visibility of navigational features in poor weather or at night including back-light pollution
- issues caused by competition for limited space between different water user groups
- frequency and severity of reported incidents
- continuous assessment of any new and emerging risks.

Where the risk assessment demonstrates that existing controls are not sufficient to reduce risk to a tolerable level, consideration needs to be given as to whether imposing pilotage, local knowledge or harbour master requirements will reduce risk to an acceptable level. The work instruction '**Waters & Harbour Masters Declaration Risk Context Tool**' attached at Appendix 1 provides the methodology to be used and contains further criteria, descriptors and additional explanation to inform and guide the risk assessment process.

### 7.5 Consultation

In some cases, the *Subordinate Legislation Act 1984* (Vic) may require consultation and the preparation of a Regulatory Impact Statement (RIS) before the making of a relevant decision. Notwithstanding this, having regard to the potential consequences of these decisions and the decision-making principles set out in the TIA, TSV will undertake appropriate consultation before making any relevant decision. Appropriate consultation will include an invitation to relevant stakeholders including harbour masters, local port managers, pilotage service providers and other industry participants to contribute to:

- risk assessment workshops
- discussion forums
- advice relating to appropriate boundaries
- review of draft declarations and determinations where required

As stated in section 7.3, prior to making a relevant decision that is likely to impose a significant economic or social burden on a sector of the community, TSV will prepare a RIS or undertake equivalent economic analysis.

## 8. Associated documents and references

Document	Relationship to this policy
P365/F01	Editable version of Appendix 1 containing risk assessment tools (TRIM DOC/15/224901)
<i>Transport Integration Act 2010</i> (Vic) (TIA)	Establishes the office, objectives, powers and functions of the Safety Director, which includes ensuring the objects of the MSA are met.
<i>Transport (Compliance and Miscellaneous) Act 1983</i> (Vic) (TCMA)	The TCMA section 2 defines mandatory marine safety decision.
<i>Marine Safety Act 2010</i> (Vic) (MSA)	Principle Victorian legislation that amongst other objectives provides for safe marine operations in Victoria.
<i>Marine Safety Regulations 2012</i> (Vic) (MSR)	Provides more detailed requirements for marine safety, including licensing, registration and safety equipment carriage requirements.
<i>Vessel Operating &amp; Zoning Rules</i> (VOZR)	Details the general state rules and the local scheduled operating and zoning rules that are in place for specific Victorian waterways.

## 9. Revision history

The Manager, Navigational Safety is responsible for reviewing this document regularly (at least every twelve months or earlier as necessary) to ensure it continues to be current and relevant to staff.

Version no.	Date	Details of change	Authorised by
1.0	20150423	New policy	Director, Maritime Safety

# Waters and harbour master's declaration risk context tool

## Purpose

This document provides guidance on the risk assessment process to be used when assessing waters for which a **relevant decision** may be made.

The tool seeks to describe the methodology to be used in undertaking the risk assessment. It also provides the criteria, descriptors and additional explanation to inform and guide the risk assessment process.

Where the outcome of the risk assessment demonstrates that existing controls are not sufficient to reduce risk to a tolerable level, consideration needs to be given to imposing pilotage, local knowledge or harbour master requirements will reduce risk to an acceptable level.

## Methodology

The risk assessment shall be undertaken by a team comprising suitably qualified and experienced subject matter experts. The risk assessment team will utilise the tools provided in **Table A** and **Table B** to provide context and guidance to the risk assessment process.

All identified risks shall be analysed (or measured) in terms of the likelihood and consequence factors described at **Attachment 1**. The analysis shall consider:

- how likely is a risk to happen (likelihood)
- what the potential outcomes are
- what is the magnitude (consequences) of the outcomes.

The risk score (N = negligible, T = tolerable, I = intolerable) is derived from the risk level matrix at **Table C**, prior to the application of available controls. It will ultimately inform whether or not a **relevant decision** will be made in respect of the waterway under assessment.

**Table A: Waterway risk considerations**

Insert name of waterway under assessment				
Waterway characteristics	Further descriptors	Major risks		
		Collisions	Vessel grounding	Close quarters
Environmental				
Size and characteristics of navigable waters	Presence of narrow/winding channels, swing basins, restrictive berthing arrangements			
Variable water depth	Any factor that produces variations to navigable water depth - siltation, shifting sand banks/shoals			
Tides and currents	Unusual currents, tides or other local phenomenon			
Weather/sea state	Local wind, localised waves			
Aids to navigation (ATON)	Accuracy, visibility and condition of ATONs			
Back light pollution	Visibility of navigational features in poor weather or at night including the availability of distinctive shoreline features for both visual and radar navigation			
Vessel type	Types of vessels, volume and density of all traffic both commercial and recreational			
Vessel size	Size and manoeuvrability of vessels proposing to use/using the waters			
Type and volume of vessel traffic	Competing use/vessel traffic numbers			
Type of cargo	Hazardous cargo/cargo likely to pose risk to the environment			
Berthing characteristics	Dimensions and characteristics of port berths including fendering, approach and exit limitations, mooring arrangements and cargo discharge/loading facilities.			
Incidents	Frequency and severity of reported incidents			

**Table B: Vessel risk considerations and application of mitigation measures**

Vessel risk considerations	Local knowledge	Pilotage	PEM	Harbour master
Safe navigation of the vessel	Local knowledge certificate (LKC) is issued only to the master of the vessel.	Only the licensed pilot takes charge of the safe navigation of the vessel in pilot required waters, except for PEM.	PEM certificate is issued only to the master of the vessel.	Sets instructions for safe navigation in a port & provides direction and advice through VTS.
Vessel size and displacement	Applies to DCVs between 12-35 m.	Unlimited - licensed pilot has no limits on size and displacement.	PEM applies only to a specific vessel.	Can direct and advise on the safe navigation of <b>all</b> vessels in a port, that is, ships, DCVs & rec boats.
Manoeuvrability	Master must know the manoeuvring capabilities of his vessel.	Pilot is specially trained to handle vessels of varying manoeuvring capabilities	PEM knows the manoeuvring capability of a specific vessel	Plays role in design of the port configuration, taking into account vessel manoeuvring capabilities
Ship handling capabilities	Master learns his vessel's handling capabilities over time. Generally fewer handling considerations on smaller vessels.	Pilot specially trained to handle vessels of varying size and shape. Ship handling skills are periodically assessed by check pilots.	PEM acquires handling skills for his specific vessel. Ship handling skills are periodically assessed by check pilots.	VTS monitors vessel movements and has access to vessel manoeuvring characteristics to facilitate best advice to assure safe navigation.
Ship handling training and maintenance of competency level	No mandatory or special training over and above CoC. Competency developed over a period by regular vessel handling.	Purposed built specialised training either on ship model simulator or model tanks.	Stricter training requirements on the standards. Ship operators may organise specialised training.	Required to attend continuous training and professional development as condition of license.
Channel size and depth	LKC manned vessels are normally smaller than 35 m. Very few issues.	Requires extensive ship handling knowledge, piloting experience and local knowledge.	Requires extensive ship handling and local knowledge.	Monitors channels and provides latest information on channel characteristics to users.
Open sea mindset	This does not apply to LKC masters	In the majority of cases pilot required vessels are manned by masters and crew of open sea mindset.	Pilot exempt masters are normally in and out of the same port regularly.	Qualified as Master 1. Employed on basis of extensive seagoing and port management experience.
Hazardous Cargo	Smaller vessels carry less oil or fewer dangerous goods therefore consequences of loss of containment are lower but larger numbers mean higher likelihood.	Normally large vessels, often carrying bulk hazardous cargo and bunker fuel. Therefore potential risk and dangers are very high.	PEM certificate is limited to medium size tankers (<185 m).	Makes specific provision and higher level of oversight for transit and handling of hazardous cargos

## Likelihood factors

Frequent (5) -	Where an occurrence is likely to occur often during the operational life of a particular vessel.
Reasonably probable (4) -	Where an occurrence is unlikely to occur often but which may occur several times during the total operational life of a particular vessel.
Remote (3) -	Where an occurrence is unlikely to occur to every vessel but may occur to a few vessels of a type over the total operational life of a number of vessels of the same type
Very remote (2) -	Where an occurrence is unlikely to occur when considering the total operational life of a number of vessels of a type, but nevertheless should be considered as being possible.
Improbable (1) -	Where an occurrence is so extremely remote that it should be considered impossible.

## Consequence Factors

The various levels of hazard consequence are as follows:

Minor (A) -	<p>An effect which can be readily compensated for by the crew. It may involve one or more of the following:</p> <ul style="list-style-type: none"> <li>a) a small increase in the operational duties of the crew or in their difficulty in performing their duties</li> <li>b) a moderate degradation in handling characteristics</li> <li>c) slight modification of the permissible operating conditions.</li> </ul>
Major (B) -	<p>An effect which produces one or more of the following:</p> <ul style="list-style-type: none"> <li>a) a significant increase in the operational duties of the crew or in their difficulty in performing their duties which by itself should not be outside the capability of a competent crew provided that another major effect does not occur at the same time</li> <li>b) significant degradation in handling characteristics</li> <li>c) significant modification of the permissible operating conditions, but will not remove the capability to complete a safe journey without demanding more than the normal skill on the part of the operating crew.</li> </ul>
Hazardous (C) -	<p>An effect which produces one or more of the following:</p> <ul style="list-style-type: none"> <li>a) a dangerous increase in the operational duties of the crew or in their difficulty in performing these duties of such magnitude that they cannot reasonably be expected to cope with them and will probably require outside assistance</li> <li>b) dangerous degradation of handling characteristics.</li> </ul>
Catastrophic (D) -	An effect which results in the loss of the vessel and/or fatalities.

**Table C: Risk level matrix**

Likelihood/ consequence	Improbable (1)	Very remote (2)	Remote (3)	Reasonably probable (4)	Frequent (5)
Minor (A)	Negligible (N)	N	N	Tolerable (T)	T
Major (B)	N	N	T	T	Intolerable (I)
Hazardous (C)	N	T	I	I	I
Catastrophic (D)	T	I	I	I	I

## Example risk register

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Deep draught oceangoing ship touches bottom crossing shoal when approaching entrance to port due to inadequate underkeel clearance for prevailing ocean swell conditions.	3	D	I Compulsory pilotage for waters on approach to port. Pilot licensing to include knowledge about shoals and effects of ocean swell on ships.	2	B	N
Master of passenger carrying domestic commercial vessel (DCV) collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	I Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions	2	B	N
Ocean going ship unable to proceed to designated berth because of presence of other vessels blocking approach to wharf resulting in considerable financial loss to shipper.	5	C	I Mandatory requirement for harbour master with capability to advise and direct all vessel navigation.	3	B	T

## **Attachment 2 – Risk registers**

1. Apollo Bay
2. Barwon Heads
3. Corner Inlet
4. Gippsland Lakes
5. Lakes Entrance Bar
6. Port Albert
7. Port Fairy
8. Port of Geelong
9. Port of Hastings
10. Port of Portland
11. Port Phillip Bay North
12. Port Phillip Bay South
13. Port Phillip Heads
14. Yarra River upstream from Bolte Bridge to Dights Falls

### Risk register – Apollo Bay

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score
<b>What can happen and how it can happen</b> Master of DCV <35 m runs aground while navigating entrance to Apollo Bay.	Likelihood 1 Consequences rating B	N	<b>Pilotage, local knowledge, harbour master</b> Pilotage and knowledge of DCV master adequate to control risk.	Likelihood 1 Consequences rating B	N

### Risk register – Barwon Heads

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score
<b>What can happen and how it can happen</b> Master of DCV <35 m runs aground while navigating entrance to Barwon River.	Likelihood 1 Consequences rating B	N	<b>Pilotage, local knowledge, harbour master</b> Pilotage and knowledge of DCV master adequate to control risk.	Likelihood 1 Consequences rating B	N

## Risk register – Corner Inlet

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating
Deep draught oceangoing ship touches bottom while navigating channel through entrance to Corner Inlet and approaches to Barry Beach due to inadequate under keel clearance for prevailing ocean, tides, current and weather conditions.	3	C	Declaration of compulsory pilotage/PEM required waters will ensure appropriate knowledge about effects of eddies, tides, currents, wave and swell and weather on ships.	2	B
Ocean going ship collides with other vessel while navigating channel through heads and directly inside PPB due to presence of narrow, winding channel, restricted area of operations and vicinity of other vessel traffic	5	D	Declaration of compulsory pilotage/PEM required waters will ensure appropriate knowledge about the presence of narrow, winding channels, restricted area of operations and vicinity of other vessel traffic	3	B
Master of DCV 35-80 m collides with unmarked obstruction when operating through the heads and directly inside PPB and vessel sinks.	4	D	Declaration of compulsory pilotage/PEM required waters will ensure knowledge about shoals and effects of tides, eddies, currents, swell and waves and weather on large DCVs.	2	B
Master of DCV 35-80 m collides with other vessel when operating through the heads and directly inside PPB due to narrow winding channels and in an area of high traffic volume.	4	D	Declaration of compulsory pilotage/PEM required waters will ensure local conditions and traffic is known.	2	B

The hazard	The consequences of a hazard happening with current controls		Risk score	Available controls	The consequences of a hazard happening with available controls used		Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating		Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV 12-35 m collides with other vessel when navigating through entrance to Corner Inlet and approaches to Barry Beach in narrow winding channels and in an area of high traffic volume.	4	D	I	Mandatory local knowledge certification requirement for the waters ensures local conditions and traffic are known.	2	B	N
Master of DCV 12-35 m collides with unmarked obstruction when operating through entrance to Corner Inlet and approaches to Barry Beach and vessel sinks.	4	D	I	Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions.	2	B	N
Master of DCV 12-35 m capsizes as a result of significant swell and wave height, strong tides and current and prevailing winds whilst navigating entrance to Corner Inlet.	3	C	I	Mandatory local knowledge certification requirement ensures that local conditions are known by masters.	2	B	N

**Risk register – Gippsland Lakes**

<b>The hazard</b>	<b>The consequences of a hazard happening with current controls</b>	<b>Risk score</b>	<b>Available controls</b>	<b>The consequences of a hazard happening with available controls used</b>	<b>Residual risk score</b>
<b>What can happen and how it can happen</b>	<b>Likelihood</b> <b>Consequences rating</b>		<b>Pilotage, local knowledge, harbour master</b>	<b>Likelihood</b> <b>Consequences rating</b>	
Master of DCV <80 m runs aground while navigating channels within Gippsland Lakes system.	2 B	N	Qualifications and knowledge of DCV master adequate to control risk.	2 B	N
Master of DCV <80 m collides with other vessel when operating in close quarters with vessel traffic.	2 B	N	Qualifications and knowledge of DCV master adequate to control risk.	2 B	N

## Risk register – Lakes Entrance Bar

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating
Master of DCV <80 m runs aground/capsizes due to changing sea bed conditions, shoaling and unpredictable sea state whilst navigating the Lakes Entrance Bar.	4	C	Mandatory local knowledge certification requirement will ensure vessel masters are aware of the risks posed when crossing the bar.	2	B
Master of DCV <80 m collides with other vessel when navigating the bar or while navigating the waters directly inside the bar crossing due to narrow winding channels and high traffic volume.	4	C	Mandatory local knowledge certification requirement will ensure vessel masters are aware of the risks posed when crossing the bar.	2	B
Master of passenger carrying DCV <35 m runs aground/capsizes due to changing sea bed conditions, shoaling and unpredictable sea state whilst navigating the Lakes Entrance Bar.	4	D	Mandatory local knowledge certification requirement will ensure vessel masters are aware of the risks posed when crossing the bar.	2	B

### Risk register – Port Albert

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV 12-35 m runs aground/capsizes due to changing sea bed conditions, shoaling and unpredictable sea state while navigating the entrance to Port Albert.	3	C	Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions.	2	B	N

### Risk register – Port of Port Fairy

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV <35 m runs aground while navigating entrance to Moyne River.	1	B	Qualifications and knowledge of DCV master adequate to control risk.	1	B	N

## Risk register – Port of Geelong

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Ocean going ship collides with other vessel when operating in close quarters with vessel traffic.	5	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	3	B	T
Master of DCV 35-80 m collides with other vessel when operating in close quarters with vessel traffic.	4	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	2	B	N
Master of DCV 12-35 m collides with other vessel when operating in close quarters with vessel traffic.	2	B	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N

## Risk register – Port of Hastings

The hazard	The consequences of a hazard happening with current controls		Risk score	Available controls	The consequences of a hazard happening with available controls used		Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating		Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Deep draught oceangoing ship touches bottom while navigating channel due to inadequate under keel clearance for prevailing tides, current and weather conditions.	3	C	I	Compulsory pilotage/PEM for waters on approach to port. Pilot licensing to include knowledge about shoals and effects of tides, currents and weather on ships.	2	B	N
Ocean going ship collides with other vessel due to presence of narrow, winding channel, restricted area of operations and vicinity of other vessel traffic	5	D	I	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	3	B	T
Master of DCV 35-80 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	I	Compulsory pilotage/PEM for waters on approach to port. Pilot/PEM licensing to include knowledge about shoals and effects of tides, currents and weather on large DCVs.	2	B	N
Master of DCV 35-80 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	4	D	I	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	2	B	N
Master of DCV 35-80 m causes damage to berthing infrastructure as a result of strong tides, current and prevailing winds at berth face.	4	C	I	Compulsory pilotage/PEM for port waters ensures local berthing characteristics is known.	2	B	N

The hazard	The consequences of a hazard happening with current controls		Risk score	Available controls	The consequences of a hazard happening with available controls used		Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating		Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV 12-35 m causes damage to berthing infrastructure as a result of strong tides, current and prevailing winds at berth face.	2	B	N	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N
Master of DCV 12-35 m collides with other vessel when operating in narrow winding channels and in an area of moderate traffic volume.	2	B	N	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N
Master of DCV 12-35 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	2	B	N	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N

## Risk register – Portland

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Ocean going ship collides with other vessel when operating in close quarters with vessel traffic.	5	D	I Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	3	B	T
Master of DCV 35-80 m collides with other vessel when operating in close quarters with vessel traffic.	4	D	I Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	2	B	N
Master of DCV 12-35 m collides with other vessel when operating in close quarters with vessel traffic.	2	B	N Qualifications and knowledge of DCV master adequate to control risk.	2	B	N

## Risk register – Port Phillip Bay North and Yarra River to Bolte Bridge

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Deep draught ocean going ship touches bottom while navigating channel due to inadequate under keel clearance for prevailing tides, current and weather conditions.	3	C	Compulsory pilotage/PEM for waters on approach to port. Pilot licensing to include knowledge about shoals and effects of tides, currents and weather on ships.	2	B	N
Ocean going ship collides with other vessel due to presence of narrow, winding channel, restricted area of operations and vicinity of other vessel traffic.	5	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known. Harbour masters directions require other vessels to liaise with vessel tracking system (VTS) prior to entry to port.	3	B	T
Master of DCV 35-80 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	Compulsory pilotage/PEM for waters on approach to port. Pilot/PEM licensing to include knowledge about shoals and effects of tides, currents and weather on large DCVs.	2	B	N
Master of DCV 35-80 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	4	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known. Harbour masters directions require other vessels to liaise with VTS prior to entry to port.	2	B	N

The hazard	The consequences of a hazard happening with current controls		Risk score	Available controls	The consequences of a hazard happening with available controls used		Residual risk score
What can happen and how it can happen	Likelihood rating	Consequences rating		Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV 12-35 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	4	D	I	Mandatory local knowledge certification requirement for the waters ensures local conditions and traffic is known.	2	B	N
Master of DCV 12-35 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	I	Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions.	2	B	N
Master of DCV 35-80 m causes damage to berthing infrastructure as a result of strong tides, current and prevailing winds at berth face.	4	C	I	Compulsory pilotage/PEM for port waters ensures local conditions and effect on berthing characteristics is known.	2	B	N
Master of DCV 12-35 m causes damage to berthing infrastructure as a result of strong tides, current and prevailing winds at berth face.	3	C	I	Mandatory local knowledge certification requirement ensures that abnormal berthing characteristics are identified for potential masters.	2	B	N

## Risk register – Port Phillip Bay South

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Deep draught ocean going ship touches bottom while navigating channel due to inadequate under keel clearance for prevailing tides, current and weather conditions.	3	C	Compulsory pilotage/PEM for waters on approach to port. Pilot licensing to include knowledge about shoals and effects of tides, currents and weather on ships.	2	B	N
Ocean going ship collides with other vessel due to presence of narrow, winding channel, restricted area of operations and vicinity of other vessel traffic.	5	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known.	3	B	T
Master of DCV 35-80 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	Compulsory pilotage/PEM for waters on approach to port. Pilot/PEM licensing to include knowledge about shoals and effects of tides, currents and weather on large DCVs.	2	B	N
Master of DCV 35-80 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	4	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known. HMD require other vessels to liaise with VTS prior to entry to port.	2	B	N
Master of DCV 12-35 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	2	B	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N
Master of DCV 12-35 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	2	B	Qualifications and knowledge of DCV master adequate to control risk.	2	B	N

## Risk register – Port Phillip Heads

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Deep draught ocean going ship touches bottom while navigating channel through heads and directly inside PPB due to inadequate under keel clearance for prevailing ocean, tides, current and weather conditions.	3	C	Compulsory pilotage/PEM for waters on approach to Heads and navigating waters directly inside Heads. Pilot licensing to include knowledge about effects of eddies, tides, currents, wave and swell and weather on ships.	2	B	N
Ocean going ship collides with other vessel while navigating channel through Heads and directly inside PPB due to presence of narrow, winding channel, restricted area of operations and vicinity of other vessel traffic	5	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known. HMD require other vessels to liaise with VTS prior to entry to port waters.	3	B	T
Master of DCV 35-80 m collides with unmarked obstruction when operating through the Heads and directly inside PPB and vessel sinks.	4	D	Compulsory pilotage/PEM for waters on approach to port. Pilot/PEM licensing to include knowledge about shoals and effects of tides, eddies, currents, swell and waves and weather on large DCVs.	2	B	N
Master of DCV 35-80 m collides with other vessel when operating through the Heads and directly inside PPB due to narrow winding channels and in an area of high traffic volume.	4	D	Compulsory pilotage/PEM for port waters ensures local conditions and traffic is known. HMD require other vessels to liaise with VTS prior to entry to port waters.	2	B	N

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV 12-35 m collides with other vessel when operating through the Heads and directly inside PPB in narrow winding channels and in an area of high traffic volume.	4	D	Mandatory local knowledge certification requirement for the waters ensures local conditions and traffic is known.	2	B	N
Master of DCV 12-35 m collides with unmarked obstruction when operating through the Heads and directly inside PPB and vessel sinks.	4	D	Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions.	2	B	N
Master of DCV 12-35 m capsizes as a result of significant swell and wave height, strong tides and current and prevailing winds.	3	C	Mandatory local knowledge certification requirement ensures that local conditions are known by masters.	2	B	N
Master of passenger carrying DCV <35 m runs aground/capsizes due to changing sea bed conditions, shoaling and unpredictable sea state while navigating the Lakes Entrance Bar.	4	D	Mandatory local knowledge certification requirement will ensure vessel masters are aware of the risks posed when crossing the bar.	2	B	N

## Risk register – Yarra River upstream from Bolte Bridge to Dights Falls

The hazard	The consequences of a hazard happening with current controls	Risk score	Available controls	The consequences of a hazard happening with available controls used	Residual risk score	
What can happen and how it can happen	Likelihood rating	Consequences rating	Pilotage, local knowledge, harbour master	Likelihood rating	Consequences rating	
Master of DCV >12 m collides with other vessel when operating in narrow winding channels and in an area of high traffic volume.	4	D	Mandatory local knowledge certification requirement for the waters ensures local conditions and traffic is known.	2	B	N
Master of DCV >12 m collides with unmarked obstruction when operating in unfamiliar location and vessel sinks.	4	D	Mandatory local knowledge certification requirement for the waters having doubt as to location of obstructions.	2	B	N
Master of DCV >12 m causes damage to berthing infrastructure as a result of strong tides, current and prevailing winds at berth face.	4	C	Mandatory local knowledge certification requirement for the waters ensures local conditions and effect on berthing characteristics is known.	2	B	N
Master of DCV >12 m runs aground as a result of shifting shoals, changing channel conditions and the presence of strong tides, current and weather.	4	C	Mandatory local knowledge certification requirement includes knowledge about shoals and effects of tides, currents and weather on vessels.	2	B	N

## **Contact Us**

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